The Journal

American Medical Association

EDITED FOR THE ASSOCIATION UNDER THE DIRECTION OF THE BOARD OF TRUSTEES BY

MORRIS FISHBEIN, M.D.

VOLUME 89 JULY—DECEMBER, 1927

AMERICAN MEDICAL ASSOCIATION, CHICAGO, 1927

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The Journal of the
American Medical Association
Published Under the Auspices of the Board of Trustees

Vol. 89, No. 1 | Chicago, Illinois | July 2, 1927

THE RELATIONS OF THE PHYSICIAN TO PUBLIC HEALTH

FROM THE STANDPOINT OF THE PHYSICIAN IN THE SMALL CITY *

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The cardinal sin in medical discussion is to wander from the topic. My topic is traversed by so many trails and crossroads that it becomes quite necessary at the outset to determine those conditions of public health control and medical practice in the small city which are essentially different from those of larger or smaller organized communities.

It is perfectly clear that all physicians should take an interest in public health—that would be ideal; but the conditions before us are real and not ideal. It also seems clear that the real attitude of the profession is that the interest of the practicing physician in the administration of public health is of far less importance in the large cities than it is in the rural communities. In the large cities the matter is in the hands of full-time, well paid, presumably competent health officers with an ample staff of assistants, while the unofficial public health agencies are well organized, well financed, and directed for the most part by expert officers and workers. In the rural community too often the part-time, underpaid, inexperienced health officer has no resources, personal or acquired, with which to meet his problem and usually does not receive any assistance from unofficial organizations. The interest and aid of the physicians in this community are imperatively demanded, whereas in the large city the practicing physician realizes that the public health affairs are in competent hands and does not feel any particular urge to interest himself or to assist, outside of a conformity with the laws and rules.

The interest of the average physician, therefore, may be stated as varying inversely as the number of people in his community; and somewhere in this scale comes the district, town or city that concerns each individual physician. What, then, are the conditions peculiar to the smaller city designated as my topic?

Such a city has gone past the stage where the personal attention of the public health officials to individual cases and minor problems is demanded, and yet is in the stage where the officials have a personal knowledge of the city's physical condition, housing conditions, the various factors entering into individual health problems; not a knowledge by report or by hearsay but by personal contacts. Furthermore, the health officer of such a city has a personal acquaintance with perhaps a majority of its physicians and knows by reputation most of those he has not met. He is expected by the profession to do more than mere executive directing. Although it is not demanded of him, it is no unusual experience for the health officer to take up directly with physicians or families specific problems of quarantine, garbage disposal, odor nuisances and the like. Because of the personal relation he prefers not to delegate the duty. He knows the family concerned either personally or by reputation; he knows where it lives and the conditions of the neighborhood; he probably knows the physician in the case and calls him by his first name.

A comparable condition exists between the physicians of the smaller city and the unofficial public health organizations.

The average physician of such a city knows personally and perhaps intimately some of the officers, workers and members of the Red Cross, family welfare, antituberculosis and practically every such local organization. He is consulted by the members concerning their problems; he feels at liberty to make suggestions to his friend, who is a director of the society. He attends some of the annual dinners, contributes a moderate sum, and may be on one or two committees.

Without doubt there are many medical conditions affecting our topic peculiar to these communities, but in my opinion the outstanding, distinguishing characteristic is in the *personal contact*. In the larger city the health department and allied organizations are probably maintained at a higher development, but the personal touch is lost. In the smaller community the personal relation is even closer, but the health department and the organizations are missing. The small city combines the two.

Granting this personal contact to be an important element, what advantage can be taken of it in developing the most satisfactory relationship between the small city practitioner and the agencies for public health?

In the first place, if a hundred private practitioners in my community were to pick up a journal containing an article with the title of this paper, at least eighty-five of them would pass it by. Of the other fifteen there would be eight who consistently read journals from cover to cover, and the other seven would include the specially trained public health physicians, the men who have a grievance against public health agencies and are looking for more arguments, and the man who has been asked to write a paper on the subject. This fairly expresses the interest of the profession in a small city, and the general lack of a feeling of personal responsibility to problems of public health.

I wish to make clear my belief that practically every ethical practitioner in every department of medicine recognizes the importance of public health control through agencies both official and unofficial. No body of professional or nonprofessional men of which I have knowledge has shown the unselfish, altruistic support of any program for public welfare that has characterized the efforts of our profession to safeguard the public health. Nevertheless, I am certain that under our present conditions the vast majority of private practitioners feel that the actual responsibility for the carrying out of this program rests with those who have chosen to specialize in this branch, those who volunteer for such service, and particularly those who are selected as officials and are paid to do the job. Each of the eighty-five would argue earnestly in favor of the program. He signs birth and death certificates punctiliously; he reports communicable diseases scrupulously; he favors milk inspection, increased taxes to insure better sewage disposal, and all the rest of that long list of needs so familiar to those who read health reports. Over the cigars after dinner he enthusiastically explains how the health department has cut down typhoid so that he has not seen a case in two years, whereas twenty years ago he thought his practice was falling off if he had less than a half-dozen cases on hand. He believes in it heart and soul; but he doesn't study it; he doesn't attend public hearings on questions affecting the city's health; he joins some of the allied societies, but he doesn't attend the meetings; he favors public clinics, but he couldn't tell where they are located. He is something like the Christian who never goes to church.

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* Read before the Conference on Public Health, Chicago, March 24, 1927.

He certainly furnishes a tempting morsel of food for the thought of public health workers. How is this man to be sold the idea that every practitioner of medicine who is granted a license has a definite obligation to the state and that it is nothing short of duty for him actively to assist in the work of the health department? If he chances to live in New York State, the law and the sanitary code of his state specifically point out to him this duty and the penalties for evading the duty.

He perhaps is one of those who believe in a definite line between preventive and curative medicine. Possibly without giving it much analytic thought he takes the attitude that his job is to take care of people after they are sick, and that it is the concern of the health department and volunteer organizations to formulate regulations and enforce measures for the prevention of disease. He certainly is on thin ice. If he were a surgeon where would he draw the line between the prevention and cure of tetanus, anthrax, erysipelas, or of many other types of infection that have surgical aspects? If he were a laryngologist, what about diphtheria, toxin-antitoxin, control of carriers? If a pediatrician, how about the milk supply, prenatal management, the handling of a poliomyelitis outbreak, the Dick procedures? Each specialty would readily present its proof that no department of practice can definitely separate preventive from curative medicine. With the importance of quarantine, of surveys in limiting infections, the use of laboratory methods in diagnosis and control of therapeutic measures, the use of vaccines and serums, the resources presented by the public health department and allied organizations for the intelligent use and aid of practicing physicians, it is quite difficult to see how any thinking man would attempt to segregate preventive and curative medicine and lose the benefits of the cooperation of the two branches.

Among these eighty-five men there will be surely found a definite type of successful practitioner. He does consistently good work and he is well paid. His days are filled from early to late. He works in a little time for studying cases and for journals and meetings. He squeezes in an occasional nine holes of golf and a few rubbers of bridge. He has not had a vacation in three years. How in heaven's name, he demands, can he be expected to attend public health meetings, join the Infant's Welfare Club, read *Hygeia,* and let his assistant put in two hours at the county dispensary every Tuesday and Friday—a couple of his busiest days. He is perfectly willing to pay his taxes and help hire the best specialists possible for the job, but he certainly has not the time for any such "outside" work as public health.

Now, this sort of man is the very one needed in public health work. He is very sure to be well prepared, he is a so-called live wire, he can do things and understand people. He has to be convinced that if all the men like him should refuse an active participation, the health program of our smaller city would fail.

Also in this eighty-five will be another distinct type. He is the man who is an ultraspecialist, puts in all his spare time on an arbeit, and harbors the impression that on the upper rounds of the medical ladder are poised those who are doing research work, while down below in an indefinite somewhere are the physicians who are taking care of sick people or trying by practical means to prevent sickness. He would feel that public health matters should be entirely in the hands of those who have made an exclusive study of the subject and that it is not a matter for his concern. Honor to the microbe hunters, the laboratory problem workers. Grateful are the acknowledgments to them for the weapons and ammunition they place in the armamentarium of the health workers. But equal honor, at least, to the earnest, studious, ethical men who are working to prevent and cure sickness. A good salesman is needed to tell a thing or two to this hyperdeveloped man.

The unsuccessful man may be in the eighty-five or in the fifteen. Usually he does not matter so much, for he lacks preparation, or force, or common sense or industry. Possibly—and probably—he has a grievance against the health department and the volunteer organization. They vaccinate his patients free; they take his baby to the welfare meeting and have its food prescribed; the clinics and dispensaries get many of the people in his neighborhood and he just plainly has no show. Well, this man in many communities probably has a right to complain. In the zeal to build up dispensaries and clinics; to better conditions of motherhood, infant care and feeding; to stamp out tuberculosis, and other laudable enterprises, the case of this struggling doctor in a poor neighborhood may be overlooked. It is an old, old controversy and no matter how long or how loud it is argued it will always come back to the one common sense conclusion of recognizing on the one hand the absolute need of free clinics and dispensaries, and on the other hand the absolute requirements that they be carefully regulated and supervised so as not to work an injustice to the physician who could not survive if the government or volunteer organizations indiscriminately offered free treatment to those who should pay. Fairness, tact, a mutual understanding and common sense are the remedies.

There are probably a few men who snapped back the page on public health matters with some show of feeling. They are the ones who rarely lose an opportunity to warn of the perils of state paternalism and the regulation of one's private affairs by commissions and societies, by long haired men and short haired women and other cranks, who feel that they have a mission to save the world. One of these physicians tells of the nurse who came from the welfare society to show one of his patients how to make her bed and wash her baby. He deplores the circumstance that he was not there to throw the nurse out the window. Another knows of two women in the motherhood association who are not fit to be in the same theater with his scrub woman, and he has heard that the treasurer of the Red Cross chapter beats his wife. It is an easy thing to let personalities influence one's estimation of a movement or an organization with which these personalities are associated. Let a popular, highly esteemed and trusted man head an organization, and success and achievement are fairly certain to follow. On the contrary, a weak president or an uninterested, carelessly chosen board may ruin for a time any organization. It becomes important, therefore, for these groups not to organize loosely or carelessly and stand vulnerable to opponents who are only too ready to wreck what may be a splendidly conceived movement for great public good.

In my opinion the medical profession leaves the work of the allied organizations too much in the hands of the laity. Some one has said that "medicine has a poor vision when it comes to seeing socially," and the indictment is more or less true. There would be far less criticism to offer these organizations if physicians were a bit more far-seeing, if they sought membership and activity in these agencies, gave freely of expert medical advice, interpreted and explained technical aspects to lay members, gave talks before clubs and other groups to help educate the public in the objects and activities of antituberculosis, Red Cross, family and infant welfare and like activities. On their side these organizations should realize that their greatest usefulness is attained when they supplement the work of the public health authorities and work in close cooperation with them. Kipling's oft-quoted lines might well be made familiar to their membership: "It ain't the individual nor the army as a whole, but the everlasting team-work of every bloomin' soul."

So far I have been considering chiefly what the public health agencies should expect of the physician. Let us shift the point of view and ask what the physician of a small city has a right to expect of his public health department.

First of all, the head of the health department in a small city must be a scientifically trained man, adequately prepared for his job. Too often these requirements are subordinated to the political qualifications that influence his appointment. I quote the statement of a recent report that "the greatest handicap to municipal health work in Illinois arises from the harmful influence of local partisan politics;" and if department heads are politicians instead of single-purposed, scientific workers the health of the public is going to suffer. In the selection of this trained official, for a smaller city at least, I feel strongly that he would be a far more efficient public servant if he were a local man rather than an imported stranger. I can conceive of local situations which would demand the seeking of an outsider for the health officer, but this would be a distinct disadvantage in losing the personal contact and acquaintanceship which I have urged as an important asset.

The physicians have a right to know definitely the attitude of the health officer toward medical practice in the community. Is he going to insist on protection of the rights of physicians in the dispensaries and clinics, on the courteous cooperation in the public city hospitals, on the proper reference of cases back to the original attending physician? I myself have never met a public health officer who, if approached in a reasonable spirit, was not perfectly willing to cooperate with me in all fairness in the consideration of my patient. Probably the other sort of health officer exists, but he is not an avis vulgaris and he would be very short-sighted not to realize that without cordial relations with the medical profession he is doomed to absolute failure, no matter how highly trained he may be.

In the smaller city the fact of a severe or unusual illness is general news or gossip and is given daily newspaper notice. It becomes a matter of no small importance to the physician to keep his conducting of the case free of criticism. If he has a clash with health officers about quarantine, removal to hospital, attendance in school of exposed children, or similar situations, and is openly and tactlessly opposed by the health department, he is very liable to unfair criticism and to being discredited by a large number of people. Consideration, tolerance and tact on both sides are all that is needed.

The advent of quacks and irregular practitioners in a small city presents its special problem. Contrary to conditions in a larger city, through hearsay and the newspaper practically the whole population of the smaller city knows of the presence of the impostors and prompt dealing with them and deportation become necessary to the medical morale of the community. This is a task the ethical physicians have a right to demand of the health department.

It would be tiresome to continue the list of the many situations affecting the relations of small city public health workers and practicing physicians. Enough has been said to indicate some of the more important problems, and I should like to recapitulate and emphasize three of them.

1. *The personal element in the relationship.* This means the selection of a properly qualified, local man at the head of the health department; the stimulation of interest in official and unofficial public health work on the part of practitioners and laymen; the cooperation of these men; the taking advantage of personal acquaintanceship with conditions and people in establishing a mutual, cordial and efficient relationship.

2. *The groundless fear that the public health administration will deprive deserving physicians of a competent livelihood.* This is a matter which simple fair-mindedness and common sense will settle among men who have a disinterested desire to cooperate.

3. *The fallacy of trying to define the exact and separate responsibilities of preventive and curative medicine.* There is no line of cleavage between these two. Of necessity they overlap, and where they run together each department must cooperate with the other. When the field of each becomes distinct, there the individual responsibility of each begins.

CONCLUSION

What measure or measures can be offered to secure most satisfactorily a proper handling of these three important considerations? I believe that Dr. John P. Koehler, health officer of my city of Milwaukee, has devised an effective means to the end we are seeking in the appointment of his advisory board. I am aware that the appointment of advisory boards and committees is not new, and have no doubt that other health officers have appointed boards along similar lines; but I do know that Dr. Koehler's plan has been particularly carefully studied and carried out and that there are small cities where such an advisory board is not being used although it would form a valuable adjunct.

The advisory board of the Milwaukee health department is composed of fourteen members. It includes six physicians and eight laymen. The physicians are appointed as representatives of the leading local medical societies, include the head of the milk commission, and are well distributed among the staffs of different hospitals, forming a group that is comprehensive of the various medical specialties and interests. The laymen include representatives from the allied volunteer health and social organizations, chairmen of the federated trades council, building trades union, etc., and the chairmen of the health committees of the county and city councils.

The health officer presides over and directs the activities of the board. When a question of general interest is before the health department, the entire board is asked to attend meetings for its consideration. It is definitely understood by the health officer and the members of the board that any member or group of members is subject to call and to consultation by the department on problems of which such members may have particular knowledge.

The results of such an arrangement are manifold. The health officer is able to avail himself of the advice of experts. The various interests represented by the board have a ready means of intelligent, practical appeal to the health authorities. Mooted questions after discussion at the general meeting may be carried by individual members to the organizations they represent, and the sense of these groups be carried back to help the satisfactory decision of the board.

When some important measure is before the common council, the county supervisors, the state legislature, the mayor or the governor, a great deal of influence will be carried with the expression of opinion of the fourteen men who have been chosen because of recognized qualifications and who represent the opinions of hundreds of other citizens composing the organizations from which they are delegated. In the small city where these men are personally and presumably favorably known, such influence is very potent, and the effect of the newspaper published personnel of such a board with their expressed opinions is of much importance in stimulating that active public interest on which the health of every city must largely depend. The cooperation of the medical profession and the volunteer health agencies with the health department, and the mutual confidence inspired by this intimate contact of lay interests and medical interests have earned for this board of advisers the title it has been given of the "Unofficial Guardian of the City's Health."

711 Goldsmith Building.

Auricular Flutter.—A study of auricular flutter throws further light on the occurrence of syncopal attacks associated with tachycardia. An attack of auricular flutter can be distinguished in many cases from one of paroxysmal tachycardia only by means of an electrocardiographic record. It is characterized by a very rapid ventricular rate, reaching sometimes from 200 to 220 beats per minute or even, according to some, 300. As a result the ventricular contractions at the onset may be so weak that the patient loses consciousness. An attack of auricular flutter may be sudden, brief, without any previous symptoms of ill health, and without any subsequent change in the heart.—Sutherland, G. A.: Fits and Faints, *Lancet,* June 11, 1927.

THE RELATIONS OF THE PHYSICIAN TO PUBLIC HEALTH *

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WASHINGTON, D. C.

I have been asked as Surgeon General of the federal Public Health Service and as representing the official health organizations of the country to discuss "The Relations of the Physician to Public Health." It is needless to say that any views I may present are only my own personal impressions, which may perhaps be of value because of the opportunities that have been afforded me by my official position during the past seven years and through a service of thirty-three years in different regions of our country to hear the opinions not only of public health officials but also of nonofficial workers, medical men in private practice, and the public in whose welfare we are all equally concerned.

As a matter of fact there is probably no unanimity of opinion throughout the profession; and, indeed, there must be so many varying factors, both personal and environmental, throughout the country which affect individual opinion that there never will be any "cast iron" written constitutional delimitations of rights and responsibilities applicable to the whole country. If the purpose of this conference be to lay down such rules we shall fail, for in the last analysis the answer lies not in us but in the public whom we serve.

Nevertheless, there have been few conferences in this country more fraught with the possibilities of good or evil to the medical profession and to the welfare of the public than this may prove to be, and I feel very deeply that in the beautiful language of the Common Prayer Book, "It is not by any to be entered into unadvisedly or lightly but reverently, discreetly, advisedly, soberly, and in the fear of God."

May I not quote Sir William Osler's beautiful description of our profession as something to think about in the conference?

> 'Tis no idle challenge which we physicians throw out to the world when we claim that our mission is of the highest and of the noblest kind, not alone in curing disease but in educating the people in the laws of health, and in preventing the spread of plagues and pestilences, nor can it be gainsaid that of late years our record as a body has been more encouraging in its practical results than those of the other learned professions. Not that we have lived up to the highest ideals—far from it—we are only men. But we have ideals, which means much, and they are realizable, which means more. Of course, there are Gehazis among us who serve for shekels, whose ears hear only the lowing of the oxen and the jingling of the guineas, but these are exceptions; the rank and file labor earnestly for your good, and self sacrificing devotion to your interests animates our best work.

We know as a biologic fact that the instinct of perpetuation of the species is far more powerful than self preservation, and in our profession the preservation and betterment of our fellow man is far more potent than our own interests, as has been and is being shown by every physician worthy of the cause. I am confident that we approach the problem in this spirit of self abnegation.

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* Read before the Conference on Public Health, Chicago, March 24, 1927.

PAST AND PRESENT RELATIONSHIP OF PUBLIC HEALTH AND MEDICAL PROFESSION

From the earliest civilization there has been an almost uninterrupted recognition of the fact that public health is a governmental or public function, as has been evidenced by the public water-works and baths and various official positions established by Greek, Roman, and other governments, the maritime quarantine laws, segregation of lepers, the Hebrew and Egyptian laws regulating hygiene, and the English laws about plague.

There would seem, too, to have been some provision for hospitalization, such as the temples of Æsculapius and the Roman hot baths at Sospel in Gaul and at Bath in Britain, to which soldiers were sent for cure and convalescence.

It is difficult to distinguish between ecclesiastical and secular government in the middle ages, but there gradually developed orders and institutions for the care of the sick, and the endowments of such institutions may be properly considered as the beginning of nonofficial public health work.

But such effort was for the relief of suffering rather than its prevention, except in the segregation of lepers and other quarantine procedures against the epidemic diseases.

Nor can the lack of preventive medical measures be justly attributed to indifference on the part of rulers and peoples, for "man power" was the essential factor of success in those days; rather was it due to ignorance as to what to do.

The modern public health movement, by which I mean action taken by organizations official or nonofficial to prevent the spread of disease and to remove or alleviate conditions both personal or environmental so as to eliminate diseases from masses of people as distinguished from treatment of the individual, began in Great Britain in the nineteenth century as a result of the industrial development, and doubtless for the same reason about the same time as movements toward better housing and sanitation. It has been a governmental function there from the start, and I do not think nonofficial bodies have had a great influence other than educational.

Britain, however, is a compact, thickly populated area, and laws regulating sanitation problems such as housing; pollution of streams and quarantine restrictions became a matter of necessity about the middle of the nineteenth century.

In this country, until the past quarter of a century, and with the exception of the two or three industrial states and a few large cities, our problems in preventive medicine were essentially those of environment, such as the suppression of pestilential diseases and the control of water and milk supplies, which are matters for governmental control.

Our development has not been one of a central government gradually decentralizing and giving up powers to state or local authority but, on the contrary, the colonies, subsequently states, retained and developed their public health powers as need required, while federal authority was restricted to assisting the states and to matters of foreign and interstate commerce, and grew *pari passu* with the development of the latter.

Even within the states the growth of health organizations was local and urban rather than state wide save in states subject to invasion from yellow fever. This condition continued with the exception of a few urban or state organizations until within the memory of many of us here. We must remember that until within the past thirty-odd years specific remedies were known for only malaria and syphilis, while the methods of transmission of the great pestilences were unknown except those spread by contact.

Modern public health activities were made possible by and followed the epochal discoveries of the bacterial causation and mode of transmission of such diseases as tuberculosis, cholera, diphtheria and typhoid fever, by Pasteur, Koch and others, and were in a few years broadened by the discovery of diphtheria and other antitoxins followed rapidly by the discovery by Manson and others of the rôle of insects and vermin. Within two decades more knowledge had been gained in medical science than in all the ages before.

While the effect of this knowledge on the field of curative medicine was revolutionary, it was insignificant compared with the events that followed in the great field of preventive medicine. As the searchlight of science was thrown into the misty darkness of one after another of the pestilential diseases which had for ages been scourging the human race, the hopeless and futile blind efforts of the past gave way to intelligent labor for their conquest.

The army of physicians who had hitherto stood alone in its fight against disease was joined by allies such as the sanitary engineer, the laboratory scientist and others.

And now that the trumpet of battle gave no uncertain sound and the physician could speak to the public in language which could be understood, as St. Paul put it, the people of intelligence began to be aroused to the importance of the application of knowledge to the prevention of disease, and there followed the installation of water supplies and milk control with rapid lessening or disappearance of the water-borne diseases such as typhoid fever and cholera.

Application of appropriate measures led, too, to the practical elimination of typhus fever and diminution of tuberculosis and smallpox.

It should be recalled that quite naturally attention and effort were directed against the great epidemic diseases, such as cholera, yellow fever and typhoid, against which individual action was of little avail and in which governmental action was necessary.

In this field the rôle of the physician in private practice can consist only in his wise guidance of the opinions of his fellow citizens in securing adequate public health organization in his community, state and county, and in the correst diagnosis and faithful reporting of disease. His responsibility here is great and even now is too often shirked, not always because of ignorance or selfishness but because of mistaken notions of professional ethics and dislike of political activity.

DEVELOPMENT OF HEALTH ORGANIZATIONS

No review of the growth of public health activity in this country would be complete without reference to the development, unique and almost peculiar to this country, to a much less extent in Great Britain, of national nonofficial organizations devoted to various phases of improvement of the people from general welfare or education, to fighting individual diseases. The influence of these organizations on the public health has been of inestimable value not only in the work accomplished by them but also in their influence on public opinion and stimulation of government, legislative and executive, to increased efficiency.

Sixty years ago there was, so far as I know, no large endowment nation-wide in its scope.

Mr. Peabody gave the endowment for the Southern Educational Board, and if it had done nothing else than bring Wickliffe Rose into the field of welfare and public health it would have been money well spent. I am informed that now the endowments for educational purposes aggregate the stupendous sum of one billion of dollars, and it should be remembered that much of this is being used to educate physicians for private practice.

Sane education, even if not consciously directed toward that end, is a powerful factor in the betterment of public health.

In addition there have been created organizations devoted entirely or in part to public health work, some of which depend entirely on endowments, such, for instance, as the Rockefeller Foundation, the Commonwealth Fund and the Milbank Fund, while others, such as the National Tuberculosis Association and American Social Hygiene Association, depend wholly or in part on voluntary subscription.

The efforts of these organizations have been directed along quite different though sometimes converging lines, for while the Rockefeller funds for instance have been expended directly in educating physicians in research and in directly aiding state and local officials, other organizations which depend on popular subscriptions must of necessity concentrate on those problems in public health which interest the lay public and in the solution of which nonprofessional personnel can actively engage. They must also be directed chiefly toward efforts which rapidly show tangible results. Perhaps the greatest influence of such organizations has been in the education of the public and the stimulation of governmental activity.

However much we may believe in the doctrine laid down by Disraeli and other statesmen, both British and American, that the protection of the health of the people is the first duty of a statesman and that public health is a governmental function, it is not probable that, under the present conception of government, we shall either eliminate nonofficial organizations or prevent the formation of others. We have no idea, I think, in this country of having confiscatory tax rates which will automatically dissolve fortunes on the death of their makers. We have not in this country anything like hereditary titles or honors. So long as human nature remains as it is, large fortunes will be left for the endowment of organizations for the promotion of public health. When they are not contrary to the public interest, an attempt must be made by the trustees of such funds to carry out the desire of the donor. I am frank to say I believe there are too many nonofficial societies, national in scope, in the country. I am sure you will agree with me that many nonofficial as well as official crusades have been unwise and indeed perhaps harmful; but there is a marked tendency toward consolidation, cooperation and the employment of enlightened methods.

DEVELOPMENT OF MEDICAL PROFESSION

During this same period the medical profession has been passing through a process of evolution from a scattered number of men, individualistic perhaps, to a greater degree than members of any other profession, and with educational qualifications ranging from a mere smattering knowledge of medicine to the highest scholastic attainments and skill. The profession is now perhaps the best organized guild in our country, with organizations from the county and city to the American Medical Association and other special societies. A marked improvement in professional attainments has resulted.

The public has recognized the dignity and importance to the common weal of properly qualified physicians, and has thrown around the permission to practice barriers which require higher intellectual and educational requirements than those of any other calling, including law, the church or nonmedical public service. While the practitioner of former days required little armamentarium beside half a dozen books, a few drugs, and instruments, he now requires an expensive equipment and the assistance of a large staff of technicians. The increased knowledge of disease, too, is such that its possession and application is beyond the capacity of any individual, so that cooperation is necessary.

Although the amount of honorarium has by no means increased in proportion to the increased outlay of the physician in attaining and maintaining his position, it is nevertheless such that concededly the best professional services, even where available, are beyond the financial ability of a very large proportion of our public; furthermore, these requirements are not everywhere available, especially in our rural and small town areas. Nor has the medical profession as such appreciated its duty to the public in the matter of education in preventive medicine.

PUBLIC HEALTH ACTIVITIES

Some of us at least are familiar with the development of urban, state and federal public health activities. Federal medical activities are confined, so far as the Public Health Service is concerned, to treatment of seamen of its several services, and of its personnel injured in line of duty, together with such functions as quarantine and immigration, assistance to the states, and the control of biologic products.

The Veterans' Bureau under existing law, imposing on it the hospitalization of any veteran of any war suffering from any disease regardless of origin, has a responsibility for about four or five million people; a very serious essay at "state medicine" hitherto not attempted in our states.

Our state and health organizations have developed from mere skeleton groups of part-time physicians whose sole object (with one or two exceptions) was the prevention or suppression of epidemics, to highly organized departments whose energy is directed not only toward the elimination or eradication of environmental diseases such as yellow fever, typhoid or malaria, and to the suppression of outbreaks of such communicable diseases as smallpox and diphtheria by isolation and treatment, but who have entered the field of preventive medicine by attempts at universal vaccination and protection against these diseases. Some states have begun the free examination of specimens as well as the manufacture of laboratory products. In several states, free clinics in connection with school work or otherwise are being conducted.

In addition, in many states so-called demonstrations are being conducted and managed by nonofficial organizations.

City health organizations vary from mere attempts at control of communicable disease and of water and milk supplies to frank attempts to enter all fields of preventive and curative medicine which will benefit the public health.

To sum up, the problem which we are discussing would seem to involve the "eternal triangle," the public, the health official, and the practicing physician, unless indeed it is looked on as a quadrangular affair by dividing the health workers into official and nonofficial. The medical profession is more highly organized, and its individuals are more competent than ever before. Its distribution, however, is unequal; and while both personnel and equipment are available to the richer and poorer class in our larger urban communities, it is the general opinion that the full resources of medical sciences are not available to the great middle class in our cities, unless they accept public aid, while in large regions of our country there is insufficient number of physicians and facilities. It is, too, I believe, a fair statement to say that the physicians as a class have not appreciated their obligation to the public in matters of public health, particularly in matters of health education. It is extremely gratifying to know that under President Phillips and the present board of trustees of the American Medical Association this condition is being remedied

Secondly, public health officials and nonofficial organizations devoted to public health no longer have their attention and knowledge concentrated solely or to a large part on the environmental and epidemic diseases, but are directing their energies not only toward the prevention of those diseases which are influenced chiefly by personal hygiene and economic conditions, but also toward procedures that will result not alone in preventing disease but in improving the mental and physical efficiency of the individuals that compose our people. As to the public at large, while those of us whose lives are devoted to public health work are often discouraged by the ignorance and indifference of the public, it is nevertheless true that within the last few years, by the mobilization for the war and by intensive educational efforts, the public as a whole has been aroused to the importance of health. One of the most significant factors is that the question is no longer approached solely from ethical and humanitarian motives, but the enormous economic loss which may be prevented by the application of medical science is now appreciated by great corporations. It is significant that perhaps a larger part of the nonmedical public health work now being done is under the direction of nonmedical men.

Finally, the question of the proper relation of the physician to public health is one that cannot be laid down for the country as a whole. The public cannot be expected to care particularly as to whether the fortunes of the medical profession will be injured in the attainment of the goal of public health. If the profession is not aroused to the importance of the problem and does not wisely guide and assist the public, undoubtedly we shall have, at least in parts of our country, attempts at the socialization of medicine such as are being made in other countries. The physician has been given a privileged status by the state and therefore owes to the public the duties not only of an ordinary citizen but in addition those of an adviser and guide. The answer is not to be sought in any formal action by national organizations. It is to be found in the attitude of the local profession in each community. The duty of the physician to the public should be taught in our medical schools. The local societies should see that public health office is taken out of partisan politics, that competent public health officials are chosen, that adequate appropriations are made available for legitimate public health work, and that moral and active assistance should be given the local officials. It may be significant that in my own life as a public health official I do not recall ever having heard a health officer complain of the intrusion of the private practitioner in his field of activity. I believe that the apprehension of many of the private practitioners as to the possible disastrous effect on their practice of the public health activity is unfounded. It is well to recall the apprehension of the mill workers of England as to the effect of the introduction of machinery on their chances of making a livelihood. We are constantly seeing that as certain fields of medicine are covered by the state, new fields of activity and usefulness are being opened to the medical profession.

In discussing the relationship of the physician to public health, we must appreciate the truth of Lowell's couplet:

New occasions teach new duties,
Time makes ancient truths uncouth.

The science of medicine, including, as it does, the whole field of knowledge, can no longer be restricted within the confines of the medical profession; the biochemist, the sociologist, the physicist, the sanitary engineer and the worker in pure science must necessarily all be included in public health and, from a research standpoint, with curative medicine itself, if indeed there be a line of demarcation between curative and preventive medicine; for instance, the cure and prevention of tuberculosis is as much an economic problem as it is a medical problem. Even in the field of private practice in curative medicine, the physician, in the usual sense of the definition of the term, is often no longer capable alone of diagnosing and treating the patient, but must of necessity rely on nonmedical technical assistants, and ultimately depend for his remedies either on the state or on commercial enterprise under state supervision. The age of the individual craftsman is over. The soldier, whether he fights the battles of science or of war, no longer forges his own weapons. The common note of the present age is cooperation, nor in a political government such as ours can we speak of voluntary and official action as being separate, for the action of the official is the expression of the wish of the people.

CONCLUSION

I am afraid these remarks of mine have been discursive. I am attempting to point out that:

1. It will be impossible for this or any other group to delimit the respective fields of the private practitioner and the public health official in specific terms appropriate to the whole country.

2. The people as a whole appreciate the value of and, in a large part, the method for obtaining health. They are naturally more or less indifferent as to how this end shall be accomplished.

3. The medical profession must appreciate this fact and aid in working out a solution.

4. It is the privilege of the profession to cooperate with the public and its duly appointed representatives in the development of a satisfactory system, and it would be unfortunate to give the public at large any impression to the contrary.

5. From time immemorial the medical profession has been regarded as the natural sponsor not only of individual but also of community health. Legal provisions relating to standards of medical education and

privilege of the practice of medicine rest on this foundation. Whether this service in future shall be rendered by the profession in cooperation with health authorities or be made incumbent on the legal health representatives must depend on the character of the service rendered by the profession. It should be the object of the organized profession to impress on each individual physician his responsibility in this matter.

THE PHYSICIAN AND THE PUBLIC HEALTH *

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I speak today from the point of view of a medical man engaged in active practice in one of the great urban centers. I shall consider particularly those various points on which the medical practitioner in these centers is likely to be, or may be, out of complete sympathy with the activities of lay organizations that have largely interested themselves in questions pertaining to public health matters.

At the outset I wish to state that I, and I believe all my fellow practitioners, honor, respect and crave the assistance of every lay person and organization that is devoted to altruistic service to the public, to the alleviation of suffering, and to the betterment of mankind. Whatever I may say in the way of criticism is meant to be in the nature of a constructive one. Our purpose is, and should be, identical. As to the methods by which this may be best accomplished, I believe that there is often room for argument and full consideration.

If we may grant, at least for the sake of argument, that my point of view is to be that of the professional in regard to matters of health as contrasted to that of the amateur in health matters, I do not think that I am asking too much. I will consider also as professional health workers equal with ourselves all those who in their training in hygiene, bacteriology, pathology, anatomy, physiology and therapeutics have equaled the requirements in these subjects of a Class A medical college. In this assumption I feel that whether or not such persons have a medical degree and a license to practice, they are equipped to be grouped with us as professionals and not as mere amateurs.

Sanitation, epidemiology and the executive features of public health work must be considered only as specialties in medicine, just as we practitioners group ourselves as neurologists, surgeons, internists, and so on. Without a basic training in the elemental medical sciences there cannot be true specialization in such work any more than the surgeon can be permitted to practice his craft without a careful training in physiology, in bacteriology and in the other essential fundamentals.

I wish also to advance as my ideal of the specialist in public health that splendid group of officers comprising the U. S. Public Health Service, and those in the medical departments of the army and navy, whose everyday function it is to apply the problems of public health in a practical way. To such men the medical profession as a whole gives its sincere confidence and full cooperation. I do not know of any exceptions. We have every confidence in all those specialists in public health who are legitimately specialists. We have a quite natural suspicion of those lawyers, politicians, business men, preachers, and otherwise unoccupied ladies, grouped so loosely and so thoughtlessly as "social workers," who do not have basic training or understanding of those subjects to which we have so seriously and with single hearted zeal devoted our whole preparation and life.

I was astonished the other day to read the statement of a worker in public health that the practicing medical profession was often found in conflict with public health activities. I cannot understand such a position unless the public health service in that instance was interested, as are some of the lay organizations, in activities basically contrary to the teachings of medical science and to the welfare of the public and its infirmities, just as some lay organizations advocate antivivisection, antivaccination, and various quack institutions and projects.

The statement has also been made that because the medical man is chiefly concerned with the sick person he cannot, therefore, be interested in the problems of the community, which, if I understand it properly, is made up merely of collections of individuals. The absurd accusation has also been laid against the medical practitioner that he is not interested in the prevention of sickness but only in its alleviation. I am sure that the individual who made such a silly and entirely unfounded statement never had a family doctor. The family doctor is and always has been the very bone and sinew of all successful methods for the prevention of disease. Little has ever been produced in the prevention of disease which has not been based on the preliminary work of a physician, or on that of the trained scientist who has the identical preliminary schooling which the physician must secure before he is permitted to graduate or to take out his license to practice. The doctor has never opposed true medical progress, but bitter experience has taught him to view with great caution the emanations of untrained, unthinking, irresponsible and often unscrupulous dabblers in health and medical practice. The practitioner is slow to accept unreasonable theories, to jump at cure-alls or to contract the hysteria which in every epidemic is likely to develop in the largely unoccupied masses.

The accusation has also been made that the medical practitioner is not public spirited, not a nationalist—this, mind you, of a profession that recently voluntarily gave 20 per cent of its personnel, old and young, in a great national calamity; of a profession the members of which are acting generously, anxiously and efficiently on the boards of every educational advance, every church and charitable venture; a profession that has always identified itself personally and as a united front in every good project of humanity. I know that there are those who feel that hospitals would be beautifully efficient institutions if only there were no doctors to demand that business step aside for the welfare of the sick, and that organized charity reach the unfortunate instead of spending its efforts and funds on a perfect business institution. That the doctor is not a business man, I confess. The recent revelations of the income tax proves that definitely.

We are that single profession which statistics show devotes voluntarily from 25 to 45 per cent of its time to unremunerated personal charities, mostly to that large and generally inarticulate mass of the unfortunate

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* Read before the Conference on Public Health, Chicago, March 24, 1927.

which are the secret wards of every honest medical man. Do any of you know a single practitioner who does not devote to the very best of his ability a large percentage of his time, without remuneration, to the care of the unfortunate sick?

But enough of this foolishness. Criticisms of this ganglion cell-less type simply indicate the motivation of its authors. As General Harbord, a great soldier and a greater citizen, has recently said, most of this propaganda originates from the activity of a pathogenic bacillus known as the paid executive secretary. He has never flourished in the culture medium supplied by the medical profession.

Misunderstandings have arisen, it is true, honest misunderstandings between the profession and some worthy public health activities. Was there ever progress without argument and criticism? There is little or none in those activities controlled by the United States Public Health Service or in those of the state or city health departments when they have been controlled and directed by trained medical men. The commissioner of health of our great, generous and progressive city has in a recent bulletin thanked the state and county medical societies and the Academy of Medicine of New York, all of which he terms his allies, for the full cooperation and assistance we have given him. I have never known it to be otherwise when we have had, as we now have, as our commissioner a physician who still remembers his training and his origin, and who still believes in medical ethics, which, I take it, is only a concrete application in our profession of the Golden Rule.

Misunderstandings between the profession and social activities along the line of public health have almost without exception originated when we have been asked to abrogate, to forget, our scientific training, or when our code of ethics has been ruthlessly ignored. Are we ready to scrap our code of ethics? If so I wish to leave medicine and become an arctic explorer or a field archeologist and be no longer a doctor. There is no more reason why medical ethics may not be applied in public health than in any other specialty in our profession. No efforts at progress will succeed until lay organizations are brought to realize that we shall first uphold the principles that have made modern medicine and the true physician of all times.

I believe that I may rightfully claim an intimate acquaintance with the members of my profession in the large community in which I live. I know few rascals in the profession; I know very few men who do not value their professional standard as high as life itself. I do not know of any practitioners who do not gladly give up a very considerable portion of their time to unremunerative and largely secret charities. I know but a few men who do not read the current journals and who do not buy, even at the prevailing high prices, standard text and other professional books. I know very few doctors who do not try to keep abreast of the times. I know few doctors who die rich; I know many who might do so if they were willing to conduct their profession as a business. I am sorry to say that I also know a few doctors of very exceptional ability who never attend medical meetings and who give none of their time to the necessary routine of society work. They are unknown outside their personal practice and perhaps to a few specialists and consultants, yet they are also an honor to their calling. I know many doctors who devote their time as employees of business institutions. Some of them are men of considerable capabilities, but they have been dwarfed and curtailed by business control. Few of them frequent the libraries or medical societies. Eventually they become worth no more than the salary they receive. They are the result of the vaunted "business control of medicine." Many of them devote their time as secretaries and agents for organized charities. They are despised by their employers, who would never trust to them their lives; they are useless to the profession, and they eventually become so "organized" that they might as well be classed merely as lay secretaries.

What does the physician in family practice resent in the activities of public health? He resents nurses doing the work of physicians, making diagnoses and dictating treatment which the family physician shall carry out. Do you blame him? He resents the underpaid, time-serving employee of the department who from the wealth of his inexperience minimizes to school children the work and ridicules the respect of their family doctor. He resents, too, wholesale septic vaccinations and other evidences of legal but bad practice. He resents the snap diagnosis of an employee of the department on a case to which he has perhaps given serious and experienced study. He resents being directed the institution of treatments which he knows from his journals and from his societies to be still in the experimental stage. He has often just cause for his complaints, for he knows himself to be the better man.

This is all easily correctable. Nurses are nurses until they have studied medicine and legally qualified themselves as practitioners of medicine. They should not be allowed to do as an agent of public medicine work which the law does not permit them to do as private individuals.

Physicians working under the direction of public health institutions must be sufficiently remunerated so that competent men may be retained. Such men will always meet courtesy, compliance and cooperation; the cheap man will not.

In a recent publication, attention has been drawn to the great economic waste which results in the duplication of work prosecuted by the many lay directed organizations. This could be avoided were these activities directed by professional, and not jealous lay, skill. Concentration under professional control would result in such economy that the money of the public would not be so wasted, and at the same time adequate salaries could be paid so that professional workers in this special field of medicine might properly compare their lot with that of the successful teacher or practitioner of medicine.

Employment of young physicians at meager salaries robs the profession of the material from which it should recruit its general practitioners, now the greatest need of the profession. I often tell my interns as they graduate that the worst thing that could happen to them would be to receive a salary on which they could live from some lay institution in which the professional experience does not reward the service; for many of them later in life would not dare to give up their salaries and start out for themselves. Some of the brightest youngsters I have ever known have been ruined by such activities. They typify the business and nonprofessional controlled society.

Another matter in the control of professional institutions by the layman lies in the demands made on the young men for service inadequately repaid either by the experience gained or by the pay received. Many of our private lay controlled hospitals are sinners in this matter. Some of them are notorious for their ruthless but entirely businesslike exploitation of the young physician.

Wealth, under the guise of charity and public health progress, more than seldom dominates even medical education. High endowments without professional control have dwarfed medical teaching in more than one institution. This is a matter for your attention.

Public medicine cannot be divorced from private medicine, except at a loss by both. The most potent and influential teacher of public medicine and of practice is the physician in contact with his patient. No public medicine can succeed professionally that has not the endorsement of the average physician.

The value and the influence of the average practitioner is beyond the comprehension of the executive who is himself not conversant with the details of medical practice or who has through lack of experience so estranged himself from his profession and its practitioners that he fails to comprehend even its purposes. He is likely to develop from his ignorance of real medicine and its problems a superiority complex of particularly inexcusable type. This is the disease from which many public health workers suffer; they are the ones who criticize the average physician. The public health worker must keep in touch with the general science of medicine and not criticize his brother who perhaps in the stress of his work has neglected to remain fully conversant with the special methods of public health. There are few surgeons who appreciate the labor of the psychiatrist; each considers the other something of a medical invert.

We of the medical profession believe that a license to practice should be granted only after four or more years of study in an accredited school, superimposed on a preliminary education of no mean extent or small cost. That this idea is not held by the public at large is only too vividly shown in each state each year by all manner of cults, often backed by the clergy, well intentioned philanthropists, financiers and people of all sorts, intelligent and otherwise.

If we are correct and well founded as to our requirements as regards the private practitioner, why is it that the practitioner of public health may be self anointed, as it were? Is the public to be less protected than the individual? May we not apply here also the invidious comparison dictated by the Egyptians of old, who admitted that Saul had slain his thousands, but David his tens of thousands? And there are many Davids engaged in their favorite avocation of public health, how many only the properly prepared medical practitioner is able to judge.

Surely there are few of you who have not read in a recent number of the *Atlantic Monthly* the exceedingly covert but telling and just arraignment of the control of medical education by self perpetuating bodies such as the General Education Board and other similar endowments. Is it not apparent to most of you that we are allowing precisely the same condition of affairs to dominate the field of public medicine? An exceedingly thoughtful and just editorial[1] appeared in The Journal, March 5, on this very subject.

I have also noted in The Journal an editorial entitled "The Physician's Responsibility in Preventive Medicine."[2] There are few, if any, practitioners among my colleagues in New York who are not willing, more than willing, to accept these implied responsibilities, few who do not subscribe whole heartedly to every word expressed in this timely editorial.

I recall a time not so long ago when the medical profession of my city did all in its power to increase the authority and powers of the United States Public Health Service, even to the extent of turning over to them the sanitary control of our port. Those of you who know the enormity of this agency in our city life can appreciate what this meant. The project was defeated. Can any of you surmise why, when the great body of our practitioners wished it? Again the subtle workings of Bacillus harbordensei.

I should like to ask General Cumming whether his wonderful organization has felt a lack of cooperation on the part of the practitioners of my city toward the activities of his workers. I do not believe it possible, and as I said at the outset of my paper, I think that I know my practicing colleagues of New York.

It seems to me that it is a very simple matter to readjust our differences and to bring to us the whole hearted support of the public. We need them, they need us. We particularly need their money, for we are a poor people financially—we give already, perhaps, too much of ourselves and of our funds to the unfortunate. Let us do all in our power to unite the public to us, let us acquaint them with our purposes, with our needs, let us invite them into our confidence. Let us frankly give our ideas to the public press, let us warrant in every way the full confidence of those whom we serve. Please remember, however, that every one of our public has his doctor, and that he has not and cannot have a higher opinion of the profession than he has of his own doctor. We and our reputation in every respect are absolutely in the hands of the practicing physician. May it never be otherwise!

With all this, with the breaking down of our no longer necessary brahministic seclusion, let us not for one moment give up our professional ideals, our traditions and our ethics. If we do we become no more than business men. In the eyes of the public we still constitute a priesthood. This reputation has been built up on the example of the family practitioner. If we lose this we lose all, and most of all the confidence of the public whom we still seek to serve, yes, even more than the God of science.

I take it that this meeting is called for something constructive. To an astonishing degree the American Medical Association possesses the confidence of the physicians of this land. It is our professional republic, a rule of ourselves by ourselves. What can the American Medical Association do to solve this problem?

It seems to me that the answer is a simple one, though the trail is rough and the desired objective far ahead. There are many wire entanglements, difficult trenches to take, machine gun nests to dislodge, and in many instances a well organized resistance against the "Medical Trust"—that is, against us, serious minded, progressive and ethical men who make up this organization. There are many Elijahs, mostly of the Bryanesque type, commanding against us. Old "General Reformer" has already laid down his barrage against us; heaven knows what he is going to do without the doctor when he has so hemmed us in by restrictions and decimated us by levies that we have as a profession become entirely secularized. But that does not concern him. It does concern us and our future usefulness.

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[1] "The Perils of Magnanimity," editorial, J. A. M. A. 88: 726 (March 5) 1927.

[2] The Physician's Responsibility in Preventive Medicine, editorial, J. A. M. A. 88: 484 (Feb. 12) 1927.

Let us win the enemy over to us by concerted action by the same devoted and disinterested zeal which has always typified the profession, and to which alone is progress in medical science due.

Let this great body insist on the control of its own members. Let it demand that it, and not the zealous amateur, shall control our education, our position in this nation, and even our discussion of medical matters.

Let us through our state and county societies, under the direction of the great parent body, enlist every member in the work of public health. Let us invite the cooperation of every honest lay body; but we must dominate and insist that the professional standards which have made medicine shall still prevail, and that medical science shall still control medicine, in all its applications.

Through our medical organizations let us detail lecturers for public occasions. Through our own authorized members let us give out to the public press of the land authoritative statements of such an enlightening character that the public will listen and take heed.

Let us take over the city, the county and the state public health organizations; too many of them are now taking us over. Let us teach our students and young practitioners the essentials of public health as we now teach them an outline of medicine, of therapeutics and of surgery. Let us in general so prepare ourselves that we are qualified to act as public health officers. Then, and then only, shall we be able to take over and to control public health in its every aspect. But we must demand at all times that the traditions and ethics of medicine shall be respected, that only the competent shall rule.

I believe that the intelligent public is really with us. I believe that they are more than willing to meet us half way, and to devote under scientific professional control the enormous sums which are now dissipated at a tremendous economic waste, mostly under the debauched name of "charity." Encourage in public health such leaders and creators as we have developed in bacteriology, in chemistry, in physics, in surgery, in physiology and in all other essential components of medicine. Insist that they shall also enjoy a commensurate reward financially, and the dignity of a professional, and not of a social or political, position. This cannot be achieved except through professional control.

Finally, may I say for the practitioners of New York that we are back of every sensible measure of accredited preventive medicine. We are more than willing to play our essential part in the program of public medicine. We are not, however, a class prone to accept without due consideration the vaporings of every volunteer amateur Moses. We are prepared and waiting for the leadership of qualified, scientific medicine in this great undertaking. We shall as a body welcome the control of this great project by accredited representatives of American medicine, whether it be by the American Medical Association or by any other similar body of equal ability and proved authority, if such other there be.

STUDIES IN THE EPIDEMIOLOGY OF RHEUMATIC FEVER

ANNUAL INCIDENCE IN SOME HOSPITALS IN THE UNITED STATES, ITS POSSESSIONS, AND CANADA *

DAVID SEEGAL
AND
BEATRICE CARRIER SEEGAL, M.D.
BOSTON

Recent studies [1] on the geographic distribution of rheumatic fever in the United States have shown that the incidence of the disease is greater in the northern than in the southern regions of the country. Owing to the fact that rheumatic fever is not a reportable disease, it is necessary to utilize hospital records or mortality statistics to obtain information regarding its frequency. Therefore Harrison and Levine studied hospital admission rates for rheumatic fever in a number of cities in the Northern and Southern states and found that "rheumatic fever and rheumatic heart disease are much more common in Boston than in Richmond, Oklahoma City, New Orleans and Galveston. Baltimore and St. Louis occupy intermediate points." Faulkner and White, in their studies, have investigated hospital reports from different parts of the world. They state that their observations "are valuable chiefly in showing what wide differences do exist in different parts, and in suggesting that colder and wetter countries or districts tend to have a higher incidence."

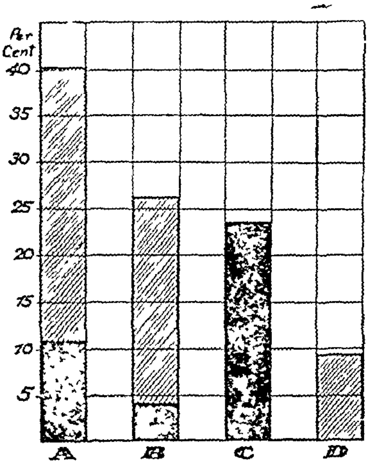

Chart 1.—Replies received from ninety-four hospitals to which rheumatic fever questionnaire was sent. *A*, percentage of hospitals supplying utilizable data; *B*, percentage of hospitals supplying incomplete or unsatisfactory data; *C*, percentage of hospitals reporting "information not available"; *D*, percentage of hospitals not replying. The percentage of each group of hospitals returning the dollar bill is indicated in black.

These authors did not attempt to describe the yearly variations in the incidence of the disease, for they give only one figure for each hospital, which represents the average yearly incidence of rheumatic fever for the number of years investigated. Since Hirsch,[2] Newsholme [3] and Pribram [4] have pointed out the cyclic character in the incidence of the disease, this method of averaging the annual frequency figures does not give any conception of the variation in the rate of the disease over a series of years.

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[1] Faulkner, J. M., and White, P. D.: The Incidence of Rheumatic Fever, Chorea, and Rheumatic Heart Disease with Especial Reference to Its Occurrence in Families, J. A. M. A. **83**: 425-426 (Aug. 9) 1924. Harrison, T. R., and Levine, S. A.: Notes on the Regional Distribution of Rheumatic Fever and Rheumatic Heart Disease in the United States, South. M. J. **17**: 914-915 (Dec.) 1924. Wood, J. E., Jr., Jones, T. D., and Kimbrough, R. D.: The Etiology of Heart Disease: A Clinical Study of Six Hundred and Twenty-Three Cases with Certain Observations on Race and Climate, Am. J. M. Sc. **172**: 185-194 (Aug. 1) 1926.

[2] Hirsch, A.: Handbuch der historisch-geographisch Pathologie, Erlangen, Ferdinand Enke **1**: 583, 1860.

[3] Newsholme, Arthur: The Milroy Lecturers on the Natural History and Affinities of Rheumatic Fever: A Study in Epidemiology, Lancet **1**: 589, 657, 1895.

[4] Pribram, A.: Der akute Gelenkrheumatismus, in Nothnagel's Specielle Pathologie und Therapie, Vienna, A. Hoelder **5**, part 2, 1899.

Extensive studies of the geographic distribution of rheumatic fever have been carried on in the British Isles, where the disease is believed to be especially common. On the one hand there is the school[5] which adheres to the belief that the high rates in the incidence of this disease are associated with low annual rainfall, and indirectly with the diminished ground water. In contradistinction to this point of view, other workers[6] have presented evidence which suggests that the highest incidence of the disease is in the damp, rainy and cold regions in the geographic areas they investigated.

Our study has concerned itself with an attempt to determine the annual incidence of rheumatic fever over a significant period of years in a representative group of hospitals in the United States, its possessions, and Canada. It is by necessity an unfinished piece of work because of the difficulties encountered in gathering a representative portion of the vast material required for the development of reliable conclusions. However, the data are presented in the hope that they may act as a nucleus to which more material will be added.

METHOD

A group of ninety-four general hospitals distributed throughout the United States, its possessions, and Canada were selected from the American Medical Directory as the source of the data. In choosing the series, hospitals of long standing, with more than 200 beds and with teaching affiliations, were given the pref-

Rheumatic Fever Admissions, Total

	St. Vincents Portland, Ore			Good Samaritan Portland, Ore			Vancouver Gen. Vancouver B. C.			Winnipeg General Winnipeg, Man			Ancker St. Paul			Minneapolis Gen. Minneapolis			Royal Victoria Montreal		
Year	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA
1925	55	5,557	1,237	44	8,239	2,316	43	13,823	2.203	130	12,239	2,457	14	7,091	.....	45	9,285	.....	44	9,190	2,434
1924	47	7,115	1,595	28	8,377	2,319	80	13 470	1,940	139	11,592	.....	33	8,131	.....	40	9,412	.....	31	9,070	2,228
1923	54	5,666	1,608	27	7,353	2,225	66	12,649	2,098	..	.....	.....	35	8,215	.....	25	9,106	.....	26	9,065	2,510
1922	49	5,571	1,625	38	7,153	2,223	98	12,413	2,307	..	.....	.....	10	7,525	.....	9	7,062	.....	26	9,136	2,154
1921	31	5,237	1,458	..	.....	.....	89	12,620	2,102	..	.....	.....	44	6,029	.....	24	6,792	.....	27	7,961	1,883
1920	20	5,118	1,410	..	.....	.....	114	13,714	3,093	..	.....	.....	71	6,570	.....	6	6,653	.....	39	8,081	1,933
1919	..	.....	.....	..	.....	.....	88	12,999	2,793	..	.....	.....	64	6,595	.....	36	6,613	.....	20	8,136	1,989
1918	..	.....	.....	..	.....	.....	23	13,375	2,127	..	.....	.....	90	7,659	.....	50	6,116	.....	19	7,940	2,002
1917	..	.....	.....	..	.....	.....	145	11,190	2,051	..	.....	.....	78	7,592	.....	146	6,554	.....	22	7,399	2,045
1916	..	.....	.....	..	.....	.....	76	8,331	.....	..	.....	.....	132	6,815	.....	143	6,219	.....	23	6,075	1,425
1915	..	.....	.....	..	.....	.....	69	6,841	.....	..	.....	.....	137	6,302	.....	40	6,140	.....	33	5,421	1,477
1914	..	.....	.....	..	.....	.....	85	5,939	.....	..	.....	.....	105	5,765	.....	53	5,062	.....	61	5,617	1,545
1913	..	.....	.....	..	.....	.....	93	5,248	.....	..	.....	.....	82	5,471	.....	54	3,765	.....	85	5,813	1,548
1912	..	.....	.....	..	.....	.....	131	4,971	.....	..	.....	.....	78	4,512	.....	28	3,028	.....	61	5,566	1,456
1911	..	.....	.....	..	.....	.....	158	5,125	.....	..	.....	.....	117	4,684	.....	..	.....	.....	53	4,673	1,475
1910	..	.....	.....	..	.....	.....	107	3 938	.....	..	.....	.....	91	6,050	.....	..	.....	.....	41	4,309	1,432
1909	..	.....	.....	..	.....	.....	65	3,012	.....	..	.....	.....	81	4,101	.....	..	.....	.....	29	4,200	1,394
1908	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	97	3,022	.....	..	.....	.....	42	3,706	1,226
1907	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	64	3,308	1,131
1906	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	48	3,444	1,195

	Lenox Hill New York			Jersey City Jersey City			Mass. General Boston			P. B. Brigham Boston			San Francisco San Francisco			Denver General Denver			State University Oklahoma City		
Year	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA
1925	50	6,327	1,733	60	11,229	2,802	32	6,682	2,735	48	4,422	2,026	30	9,113	2,310	29	6,133	1,081	0	3,931	1,491
1924	67	6,060	1,702	..	.....	.....	34	6,882	2,808	39	4,658	2,312	34	8,163	2,589	19	5,920	1,064	0	3,911	1,558
1923	36	5,722	1,676	..	.....	.....	18	6,531	2,625	30	4,775	2,502	36	7,612	2,208	..	.....	.....	2	3,373	1,261
1922	..	.....	.....	..	.....	.....	40	6,659	2,713	31	4,685	2,649	32	7,865	2,310	..	.....	.....	1	3,560	1,708
1921	..	.....	.....	..	.....	.....	32	6,585	2,633	20	4,315	2,348	30	6,963	2,057	..	.....	.....	..	.....	.....
1920	..	.....	.....	..	.....	.....	19	6,185	2,393	17	4,316	2,446	29	6,246	2,187	..	.....	.....	..	.....	.....
1919	..	.....	.....	..	.....	.....	24	6,074	2,399	22	4,282	2,411	..	.....	.....	..	.....	.....	..	.....	.....
1918	..	.....	.....	..	.....	.....	37	6,702	2,664	38	4,025	2,333	..	.....	.....	..	.....	.....	..	.....	.....
1917	..	.....	.....	..	.....	.....	32	6,699	2,427	35	3,674	1,878	..	.....	.....	..	.....	.....	..	.....	.....
1916	..	.....	.....	..	.....	.....	31	6,507	2,562	45	3,712	1,925	..	.....	.....	..	.....	.....	..	.....	.....
1915	..	.....	.....	..	.....	.....	24	6,503	2,678	36	3,417	1,731	..	.....	.....	..	.....	.....	..	.....	.....
1914	..	.....	.....	..	.....	.....	27	6,413	2,418	40	4,213	2,072	..	.....	.....	..	.....	.....	..	.....	.....
1913	..	.....	.....	..	.....	.....	52	6,215	2,463	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....
1912	..	.....	.....	..	.....	.....	76	6,629	2,612	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....
1911	..	.....	.....	..	.....	.....	51	6,495	2,460	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....
1910	..	.....	.....	..	.....	.....	60	6,092	2,159	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....
1909	..	.....	.....	..	.....	.....	37	5,871	2,059	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....
1908	..	.....	.....	..	.....	.....	56	5,362	2,008	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....
1907	..	.....	.....	..	.....	.....	79	5,517	2,119	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....
1906	..	.....	.....	..	.....	.....	28	5,075	1,919	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....

	St Vinc de Paul Norfolk, Va			San Diego Co Gen San Diego, Calif.			Baylor Dallas, Texas			John Sealy Galveston, Tex.			Charity New Orleans			Touro Infirmary New Orleans			Hillman Birmingham, Ala.		
Year	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA
1925	10	16,688	5,562	6	4,383	1,461	9	10,707	3,569	4	4,082	1,111	32	25,953	7,620	2	9,494	.....	6	5,813	1,049
1924	5	15,735	5,245	..	.....	.....	5	9,073	3,324	1	4,539	1,036	21	24,224	6,805	2	8,118	.....	0	5,538	944
1923	4	15,581	5,193	..	.....	.....	1	8,981	2,960	1	3,812	934	9	20,565	5,842	2	7,856	.....	0	4,759	849
1922	2	15,533	5,177	..	.....	.....	1	7,441	2,480	2	3,871	1,026	15	17,279	5,042	3	7,632	.....	2	3,850	.....
1921	8	12,689	4,229	..	.....	.....	2	6,709	2,236	0	4,171	915	7	17,309	5,332	2	7,757	.....	0	3,625	.....
1920	5	9,689	3,229	..	.....	.....	2	9,077	3,025	1	4,148	1,003	23	15,999	5,181	..	.....	.....	0	3,150	.....
1919	..	.....	.....	..	.....	.....	0	7,679	2,559	0	3,963	953	26	17,148	6,025	..	.....	.....	1	3,442	.....
1918	..	.....	.....	..	.....	.....	..	.....	.....	0	4,961	1,616	24	19,221	8,553	..	.....	.....	1	3,606	993
1917	..	.....	.....	..	.....	.....	..	.....	.....	0	3,877	1,103	32	19,594	7,637	..	.....	.....	1	4,055	1,147
1916	..	.....	.....	..	.....	.....	..	.....	.....	0	3,621	1,120	49	18,651	6,765	..	.....	.....	..	.....	.....
1915	..	.....	.....	..	.....	.....	..	.....	.....	0	3,085	1,131	64	17,823	6,720	..	.....	.....	..	.....	.....
1914	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	41	16,742	6,368	..	.....	.....	..	.....	.....
1913	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	49	14,349	5,477	..	.....	.....	..	.....	.....
1912	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	65	12,983	5,102	..	.....	.....	..	.....	.....
1911	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	67	12,220	4,600	..	.....	.....	..	.....	.....
1910	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	91	11,313	4,537	..	.....	.....	..	.....	.....
1909	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	47	9,576	3,792	..	.....	.....	..	.....	.....
1908	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	57	9,540	4,327	..	.....	.....	..	.....	.....
1907	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	31	8,850	3,768	..	.....	.....	..	.....	.....
1906	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	29	8,452	3,340	..	.....	.....	..	.....	.....

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[5] Newsholme (footnote 3). Longstaff, G. B: A Contribution to the Aetiology of Rheumatic Fever, Tr Epidemiol. Soc. London, N. S 24: 33, 1905 Church, W.: Rheumatic Fever, in Allbutt and Rolleston's System of Medicine 2: 594, 1906 Greenwood, M., and Thompson, T.: On Meteorological Factors in the Aetiology of Acute Rheumatism, J. Hyg. 7: 171, 1907.

[6] Gabbett, H. S.: On the Seasons of the Year and the Prevalence of Acute Rheumatism, Lancet 2: 675, 1873. Whipman, T.: Acute Rheumatism: Reports of Collective Investigation Committee, B. M. A., Brit. M. J. 1: 387, 1888 Poynton, F. J.: A Contribution to the Study of Rheumatism Based upon a Study of Fifty-Two Cases in Children, Quart J. Med 1: 225, 1908 Young, M.: A Preliminary Study of the Epidemiology of Rheumatic Fever, J. Hyg. 20: 248 (Nov.) 1921.

erence. Institutions devoted primarily to the treatment of tuberculosis, mental diseases, chronic invalids and the like were excluded.

Admissions, and Admissions to Medical Wards *

Montreal General Montreal			City Cleveland			Harper Detroit			Toronto General Toronto			Albany Albany, N. Y.			Bellevue New York			Presbyterian New York			
RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	Year
39	6,222	.....	78	10,418	1,905	40	17,474	1,615	38	11,115	2,674	10	7,336	1,753	323	48,036	.....	104	3,313	1,688	1925
43	6,125	1,325	63	8,585	1,468	16	16,593	1,406	55	11,483	2,612	4	7,445	1,861	426	47,985	.....	101	3,518	1,704	1924
24	6,821	1,695	57	7,161	1,315	9	16,210	1,175	40	10,918	2,583	12	6,585	1,616	355	45,258	.....	67	3,320	1,584	1923
46	6,562	1,459	26	7,260	1,378	..	.....	.....	29	10,393	2,277	..	.....	.....	337	45,671	.....	50	3,496	1,827	1922
40	6,016	1,477	47	6,037	1,216	..	.....	.....	18	10,038	2,333	..	.....	.....	296	43,597	.....	60	3,430	1,832	1921
49	5,810	1,621	21	5,908	.....	..	.....	.....	..	.....	.....	..	.....	.....	207	38,910	.....	55	3,677	1,807	1920
19	5,795	.....	11	6,121	.....	..	.....	.....	..	.....	.....	..	.....	.....	197	38,850	.....	59	4,001	2,256	1919
28	7,295	.....	15	7,020	.....	..	.....	.....	..	.....	.....	..	.....	.....	224	42,553	.....	35	3,699	1,798	1918
74	7,665	.....	81	7,191	.....	..	.....	.....	..	.....	.....	..	.....	.....	457	45,470	.....	55	3,868	1,849	1917
72	8,131	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	394	45,422	.....	56	3,699	1,807	1916
47	7,860	2,631	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	475	44,485	.....	42	3,401	1,473	1915
35	5,510	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	581	43,297	.....	..	.....	.....	1914
16	4,939	1,655	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	488	41,376	.....	..	.....	.....	1913
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	432	40,264	.....	..	.....	.....	1912
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	531	37,578	.....	..	.....	.....	1911
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	589	40,227	.....	..	.....	.....	1910
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	511	36,320	.....	..	.....	.....	1909
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	630	33,942	.....	..	.....	.....	1908
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	706	33,224	.....	..	.....	.....	1907
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	444	27,178	.....	..	.....	.....	1906

Kansas City Gen. Kansas City, Mo.			City St. Louis			City No. 2 (col.) St. Louis			Memphis General Memphis, Tenn.			Baptist Memorial Memphis, Tenn.			Louisville City Louisville, Ky.			Johns Hopkins Baltimore			
RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	Year
3	6,801	.....	47	16,283	.....	18	6,652	2,132	9	6,732	2,433	2	11,103	1,760	19	7,255	1,177	34	.....	1,775	1925
9	6,617	.....	38	15,536	.....	20	6,239	2,751	10	6,625	2,531	5	11,599	2,030	27	7,395	1,352	15	.....	1,823	1924
3	6,189	.....	42	16,031	.....	0	5,087	2,017	4	5,795	3,145	3	10,659	1,705	..	.....	.....	9	.....	1,989	1923
3	5,275	.....	39	16,053	.....	8	4,127	1,185	10	5,061	1,728	4	9,073	1,452	..	.....	.....	19	.....	1,809	1922
9	4,861	.....	24	14,471	.....	7	4,221	1,182	12	5,657	.....	2	8,031	1,285	..	.....	.....	21	.....	1,818	1921
2	4,131	.....	36	11,891	.....	6	3,559	1,210	3	4,323	.....	2	7,897	1,261	..	.....	.....	8	.....	1,941	1920
..	.....	.....	43	13,031	.....	..	.....	.....	8	4,613	.....	..	.....	.....	..	.....	.....	2	.....	2,006	1919
..	.....	.....	55	17,685	.....	..	.....	.....	5	4,620	.....	..	.....	.....	..	.....	.....	17	.....	1,946	1918
..	.....	.....	127	17,989	.....	..	.....	.....	5	4,710	.....	..	.....	.....	..	.....	.....	5	.....	1,811	1917
..	.....	.....	126	18,389	.....	..	.....	.....	8	4,291	.....	..	.....	.....	..	.....	.....	22	.....	1,635	1916
..	.....	.....	120	17,138	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	10	.....	1,626	1915
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	19	.....	1,723	1914
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1913
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1912
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1911
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1910
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1909
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1908
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1907
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	1906

University Augusta, Ga.			Roper Charleston, S. C.			Philippine Gen. Manila, P. I.			The Queen's Honolulu, Hawaii			Ancon Panama Canal			
RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	RF	TA	MA	Year
0	5,213	2,105	4	3,785	1,976	13	12,708	3,268	5	4,987	2,685	17	8,200	.....	1925
3	4,708	2,227	2	3,468	1,770	11	12,644	3,144	..	.....	.....	21	7,526	.....	1924
0	4,285	2,236	2	3,563	1,808	17	12,139	2,849	..	.....	.....	17	6,455	.....	1923
2	3,802	1,704	0	3,370	.....	17	10,155	2,500	..	.....	.....	7	6,313	.....	1922
2	3,667	1,692	0	3,339	.....	14	9,153	2,444	..	.....	.....	20	8,258	.....	1921
0	3,902	1,747	..	.....	.....	10	9,360	2,711	..	.....	.....	9	9,932	.....	1920
1	4,501	2,529	..	.....	.....	7	9,405	2,885	..	.....	.....	15	10,536	.....	1919
..	.....	.....	..	.....	.....	16	9,864	3,293	..	.....	.....	11	12,405	.....	1918
..	.....	.....	..	.....	.....	17	8,939	2,672	..	.....	.....	3	11,047	.....	1917
..	.....	.....	..	.....	.....	30	7,258	2,121	..	.....	.....	13	9,261	.....	1916
..	.....	.....	..	.....	.....	47	7,144	2,849	..	.....	.....	17	10,844	.....	1915
..	.....	.....	..	.....	.....	41	7,193	3,013	..	.....	.....	44	15,356	.....	1914
..	.....	.....	..	.....	.....	52	6,732	2,985	..	.....	.....	13	21,855	.....	1913
..	.....	.....	..	.....	.....	44	6,992	3,226	..	.....	.....	33	20,892	.....	1912
..	.....	.....	..	.....	.....	27	6,317	2,679	..	.....	.....	78	21,987	.....	1911
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	128	20,167	.....	1910
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	61	18,531	.....	1909
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	139	15,738	.....	1908
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	141	14,012	.....	1907
..	.....	.....	..	.....	.....	..	.....	.....	..	.....	.....	101	13,171	.....	1906

* The yearly number of cases of rheumatic fever (RF); the yearly total hospital ward admissions (includes medical and surgical admissions) (TA), and the yearly medical ward admissions (MA) in forty hospitals in the United States, its possessions and *Canada*.

The collection of data was carried out in the following manner: A letter stating the purposes of the epidemiologic survey was sent to the superintendents of the hospitals selected for study or, in some cases, to the chief medical officer or professor of medicine. This letter contained a form of five columns to be filled in by a clerk in the record room. The captions of the columns were: Year (1875 to 1925); Number of Cases of Rheumatic Fever; Number of Cases of Chorea; Total Number of Admissions to the Medical Wards; Total Number of Admissions to All the Hospital Wards. Directions were given that only clinically diagnosed cases of rheumatic fever and Sydenham's chorea admitted to the house were to be included in the report. A dollar bill was enclosed with the form for the remuneration of the clerk who might perform the task. From our own experience we had found that the work could be completed in approximately one hour.

By accepting statistics for cases admitted only to the house, the possibility of determining the number of individuals with these diseases who were being treated in the outpatient departments was precluded. Although such information might have been extremely valuable, the index systems and character of diagnosis in the majority of outpatient departments made it advisable to exclude such material from our study.

The response to this letter and a series of follow-up communications is graphically shown in chart 1. Of ninety-four requests for information, thirty-eight, or 40.5 per cent, responded with data which were utilized in the survey. Of this group, 29 per cent returned the dollar bill. A second group of twenty-five, or 26.5 per cent of the total, returned forms which were incomplete or unsatisfactory. Of this number 16 per cent returned the money. A third group of twenty-two, or 23.5 per cent, returned the dollar bill with the statement that their record system made it impossible or too difficult to gather the desired information. The fourth group, numbering nine, or 9.5 per cent of the total, failed to reply to our letter and follow-up communications.

The data from the second group of twenty-five hospitals were considered incomplete or unsatisfactory on the basis of one or more of the following criteria:

1. Less than 1,000 medical admissions, or 3,000 total admissions per annum.
2. Data covering a period of less than a year.
3. The obvious inaccuracy of the figures.
4. An expression of uncertainty from the sender of the report as to the validity of the information.

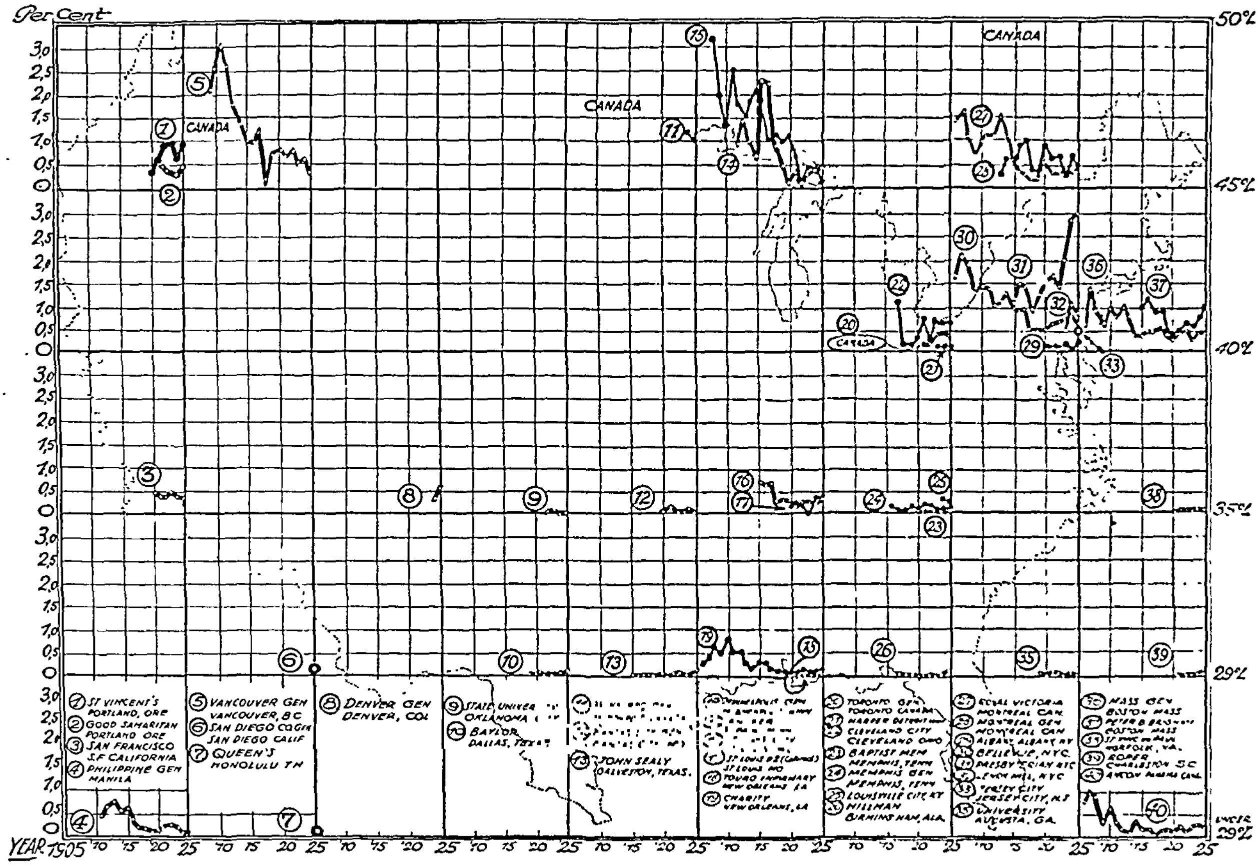

Chart 2.—Percentage of annual total admissions (includes medical and surgical) diagnosed as rheumatic fever in forty hospitals in the United States, its possessions, and Canada. Each curve in the larger squares represents an individual hospital which is situated in its approximate geographic location. The name of each hospital appears in the lowest set of squares. Note the highest percentages of rheumatic fever in the northern latitude areas as contrasted with those in the South.

Those reports which showed striking variations in the rate of incidence of rheumatic fever in several hospitals in the same city were investigated with regard to the accuracy of their figures. A series of follow-up letters was sent in an effort to obtain satisfactory correction of the questionable data. When it was found impossible to make the returns compatible, the figures for the entire city were discarded. There were six hospitals in this group, three in Philadelphia and three in Chicago. In the latter city, the markedly divergent results were found to be due to different methods of classification of the disease. For instance, one hospital included all its cases of rheumatic fever under the heading "Acute Arthritis." It was impossible to determine how many of the cases included in this category were actually gonococcal, streptococcal or other forms of arthritis. On the other hand, another Chicago hospital classified only a portion of its rheumatic fever cases as such, the remainder being grouped under the headings: "Acute Articular Rheumatism," "Acute Rheumatism," "Acute Arthritis" and "Acute Polyarthritis." Since the error could not be rectified, all the material was excluded from this report. A similar difficulty was found to exist in three Philadelphia hospitals. Here the divergence of rates for the disease in the various institutions seems to rest, in part at least, on selection of cases. In this instance, it was again felt advisable to discard the data for the entire city.

Two hospitals reported rates of rheumatic fever lower than that for chorea. Since this fact is contrary to what is known of the relative hospital frequency of the two conditions, and since other hospitals reported many more cases of rheumatic fever than chorea, we considered the data from these two hospitals of questionable accuracy and therefore discarded the material.

The variable returns for the incidence of chorea made it seem highly probable that these figures depended on the size of the children's wards in connection with the hospital. These figures are therefore not included in our study. They were useful, however, in judging the accuracy of the figures submitted for rheumatic fever incidence, as before described.

PRESENTATION OF DATA

The presentation of the material from the thirty-eight hospitals submitting acceptable data and the two Boston hospitals which were personally canvassed, a total of forty hospitals, is accomplished by means of the accompanying table and charts 2 and 3. The table presents the figures for rheumatic fever admissions, total admissions to all the hospital wards, and total admissions to only the medical wards for the years 1906 through 1925 for each hospital.

Charts 2 and 3 are similar to each other in their construction. They contain graphs for each of the hospitals of our series. These individual graphs are plotted in their appropriate place in one of the forty-five larger squares which have been superimposed on a map of the United States. The graph for each hospital lies approximately in its correct geographic location. The abscissas, or base lines, correspond to the latitudes 45°, 40°, 35°, 29°, and "under 29°." Every hospital whose graph has 40° as a base line is situated either at 40° latitude or between 40° and 45°, and so for the other latitudes. The abscissas are divided into years extending from 1905 through 1925. The ordinates are divided into intervals representing the percentage of rheumatic fever admissions in terms of either the annual total admissions (chart 2) or the annual medical admissions (chart 3).

Those squares in the charts which lie on the Eastern Seaboard often contain more than one graph, while many in the Middle West contain no graph. The latter condition is due to the fact that we were unable to procure reliable data from these thinly settled areas. There are five Canadian hospitals which are accordingly designated. In the lowest squares are graphs from a Philippine, a Hawaiian and a Panama Canal Zone hospital. The number opposite each curve will be found again in the lowest squares, accompanied by the name and location of the hospital supplying the material from which the curve was constructed.

The original data are to be found in the table. The hospital reports are so arranged in the table that they correspond in position with the graphs on the charts, reading from left to right.

Chart 2 is entitled "percentage of total admissions (includes medical and surgical) diagnosed as rheumatic fever." To obtain the percentages which are here graphically represented, the number of cases of rheumatic fever admitted yearly to each hospital was divided by the total number of patients admitted to all the hospital wards during the same year. Chart 3, entitled "percentage of annual medical admissions diagnosed as rheumatic fever," is prepared in the same manner from the annual number of cases of rheumatic fever and the medical admissions.

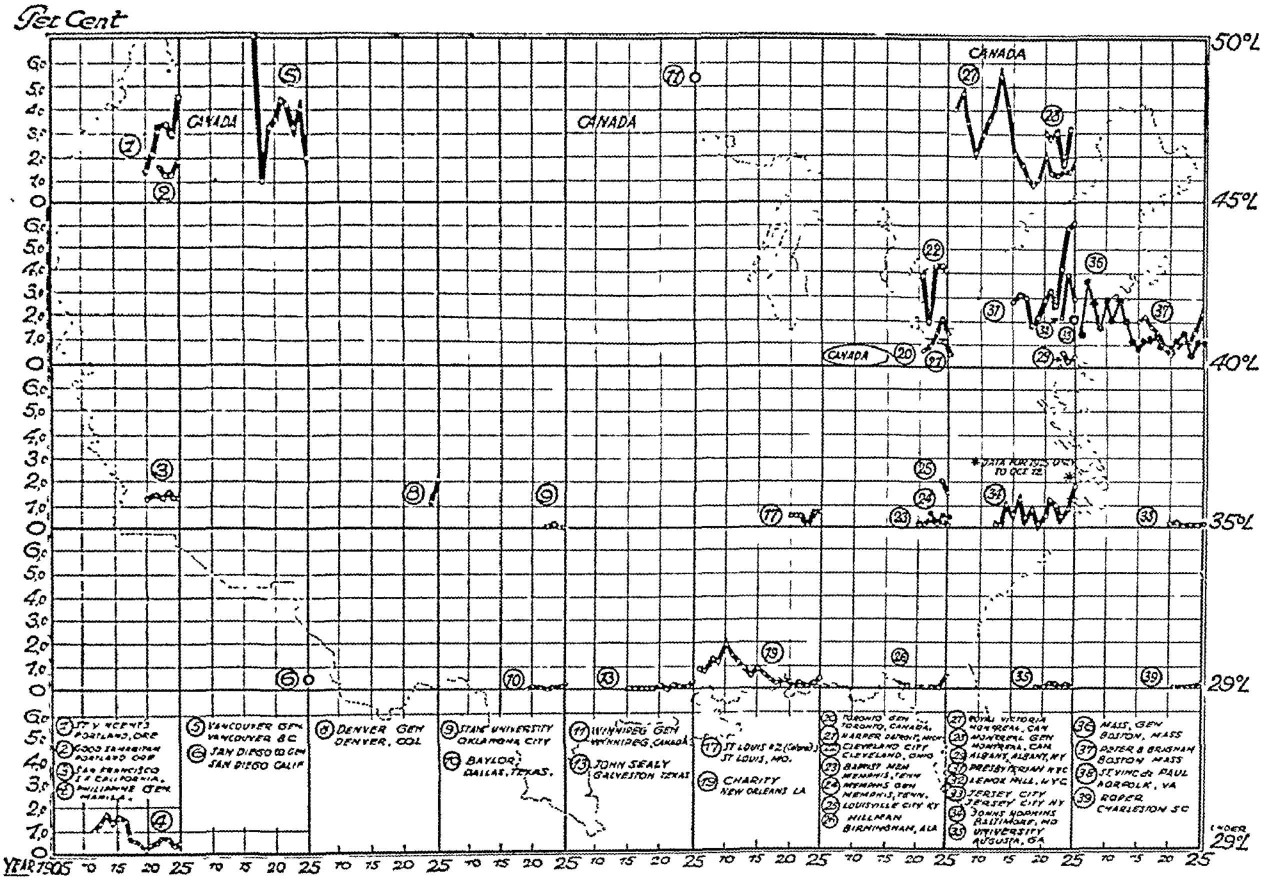

Chart 3.—Percentage of annual medical admissions diagnosed as rheumatic fever in thirty-two hospitals in the United States, its possessions and Canada. Each curve in the larger squares represents an individual hospital which is situated in its approximate geographic location. The name of each hospital appears in the lowest set of squares. Note that the percentage of rheumatic fever is greater in the northern latitude areas than in the southern.

Eight of the hospitals were unable to supply figures for the medical ward admissions, although they did submit figures for the total ward admissions. It is for this reason that it was necessary to present the rheumatic fever figures in terms of both medical and total ward admissions. The incidence of a medical disease when estimated in terms of the total admissions to all the hospital wards is likely to be badly distorted, as one hospital may have large obstetric, neuropsychiatric, tuberculous and contagious services while another has only medical and surgical wards. This, of course, means that a comparison of the incidence of rheumatic fever in terms of total hospital admissions in two such hospitals would give a false view of its relative prevalence in the two institutions. However, the curves from those hospitals which are represented in both charts 2 and 3 are of the same form and usually of the same relative magnitude. Therefore, the percentage of rheumatic fever in terms of total ward admissions for the eight hospitals represented only in chart 2 is probably sufficiently accurate to give an indication of the prevalence of the disease in these hospitals.

COMMENT

In any biologic experiment there are many variables which make perfect uniformity in the results impossible. Such variables have been particularly numerous in this survey because of the general character of the undertaking. Differences in the classification of the disease, the selection of cases in teaching hospitals, the susceptibility of the various racial groups represented in different portions of the country, the accuracy of diagnosis, and the readiness with which people in different regions of the country avail themselves of hospital privileges are all factors that may have affected the figures. These influences can scarcely be evaluated in estimating the significance of some of this information, and therefore a considerable reserve must be manifested in drawing conclusions from these data, which are by necessity of a limited order.

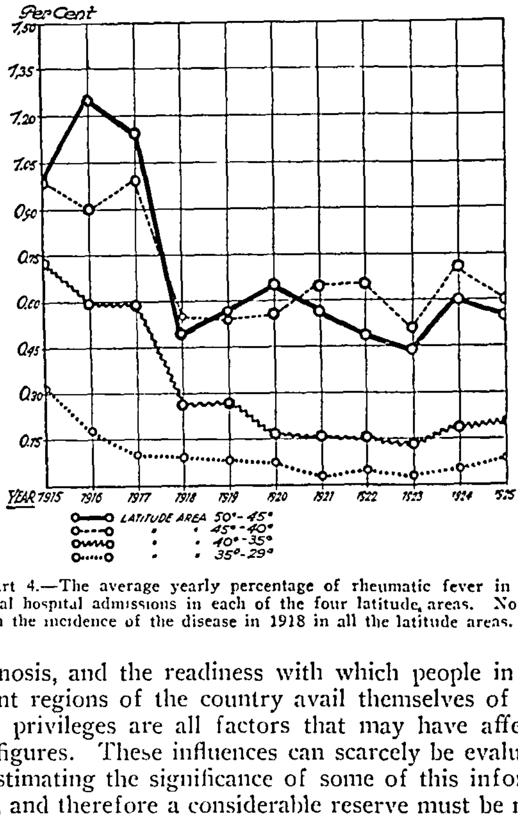

Chart 4.—The average yearly percentage of rheumatic fever in terms of total hospital admissions in each of the four latitude areas. Note, the fall in the incidence of the disease in 1918 in all the latitude areas.

Inspection of charts 2 and 3 demonstrates that rheumatic fever is present in varying percentages in all the hospitals of our series. Its frequency, however, diminishes markedly and quite consistently as one travels from north to south. In most Southern and Near Southern hospitals, whose data are shown in the lower sets of graphs, the relatively flat curves close to the base line indicate that the incidence of rheumatic fever in hospitals in cities such as Dallas, Galveston, Oklahoma City, Kansas City, Memphis, Birmingham, Augusta and Charleston is very low. An inspection of the figures of these hospitals shows that despite the flatness of the curves there is, however, a yearly fluctuation in the rate of the disease. But with such a low incidence, the number of cases of rheumatic fever in a year may double or triple that of the preceding year without making any prominent change in the graph.

The relatively high rates of rheumatic fever in the Northern hospitals stand out in contrast to this picture in the South. In order to show this variation more simply, chart 4 was constructed. To obtain the figures for this chart the yearly rheumatic fever and total admission figures for all the hospitals lying in each of the upper four latitude divisions were added together and the average yearly rheumatic fever incidence, in terms of total hospital admissions, for each of the latitude areas concerned, was thus determined. The Philippine, Hawaiian and Panama Canal Zone hospitals were omitted from this chart.

These average yearly figures for each of the latitude areas 50°-45°, 45°-40°, 40°-35° and 35°-29° are graphically represented for the years 1915 through 1925. The curve for latitude area 50°-45° is made up of an equal number of Canadian and northern United States hospitals. Running in close association with this curve is the graph for latitude area 45°-40°, which represents hospitals grouped for the most part on the Northeastern seaboard, since we were unsuccessful in obtaining reliable data from more western institutions in this latitude area. In contrast to the relatively high rate of rheumatic fever shown by the graphs for the upper two latitude areas, the hospitals lying between 40° and 35° show a much decreased incidence of the disease, and the most southern hospitals an extremely low incidence. In judging the significance of these average figures, it should be remembered that in the earlier years 1915 to 1920 there are fewer hospitals represented than in the years 1920 to 1925. It is also important to realize that all those hospitals which have supplied us with figures extending over many years lie on a body of water—the Great Lakes, the Mississippi River or one of the coasts.

All the hospitals included in this study which have given figures over a sufficiently long period of time show, on the average, a higher yearly incidence of rheumatic fever previous to 1918 than from 1918 through the later years of the study. In this connection Atwater[7] has recently shown that "there is a definite and rather consistent downward trend in the mortality from rheumatic fever in the U. S. registration area between 1900 and 1923."

In connection with the drop in the incidence of the disease which is found here in 1918, the figures for rheumatic fever among enlisted men quoted by Faulkner and White[1] are of interest. Their data extend from 1913 through 1922. The average "admission ratio per thousand white enlisted men" in the United States for "acute rheumatic fever" for the years 1913 through 1918 is 6.69, while for 1919 through 1922 it is 2.47. In the period 1913-1922, the two years of highest incidence are 1917 and 1918. For the negro enlisted men, the average admission ratio for 1913 through 1918 is 6.11, and from 1919 through 1922, 3.45.

The four curves of chart 4 representing the average incidence of rheumatic fever for the four latitude areas are, practically speaking, flat from the year 1918 through 1923. During the last two years, 1924 and 1925, there has been a tendency toward an increased rate of the disease in some hospitals. This increase is most marked in the Presbyterian Hospital in

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[7] Atwater, R. M.: Studies in the Epidemiology of Acute Rheumatic Fever and Related Diseases in the United States, Based on Mortality Statistics, Am. J. Hyg. 7: 343-369 (May) 1927.

New York. We have been advised that this is not due to selection of cases. Other hospitals which show the same tendency are St. Vincent's, Portland, Ore.; Peter Bent Brigham, Boston, and Johns Hopkins, Baltimore. In chart 4 this rise is faintly indicated, but it will be necessary to have data for subsequent years before it can be known whether it is real or only apparent.

The rise in the incidence of the disease during the years 1924 and 1925 is more distinctly indicated in chart 5. Chart 5 is prepared in the same manner as chart 4, but presents the average percentage of rheumatic fever for the four upper latitude areas in terms of medical admissions. Because so few hospitals gave figures for their medical ward admissions over a longer period of time than six years, this chart covers only the years 1920 through 1925.

Swift,[8] in commenting on Lambert's[9] report that rheumatic fever was decreasing in frequency among patients admitted to Bellevue Hospital between the years 1906 and 1919, says:

> If the rheumatic fever is a specific infection, we would expect it, like other acute infectious diseases, to run in certain periodicity in incidence. . . . The influenza epidemic on the incidence of other acute diseases must be considered. Vital statistics have shown that there has been a marked falling off of tuberculosis, chronic cardiac disease, and other diseases, following the influenza epidemic. It is possible that patients who are subject to infection may have succumbed to influenza, and for that reason there are fewer such patients to contract rheumatic fever.

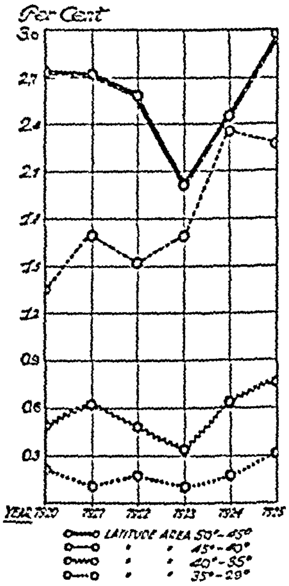

Chart 5.—The average yearly percentage of rheumatic fever in terms of medical hospital admissions in each of the four latitude areas. Note the rise in the incidence of the disease in the years 1924 and 1925.

Of the cyclic character of the disease, as described especially by Pribram[1] and Newsholme,[3] there is very little that can be said from the figures presented here. There are yearly fluctuations in the percentage of rheumatic fever patients received in each hospital. For instance, a particularly prominent jump in the incidence of the disease is reported for the years 1916 and 1917 at the Minneapolis General Hospital. Yearly fluctuations are much more marked in all the curves previous to the year 1915 than subsequently. If all the hospitals showed similar fluctuations in the same year, it might justifiably be called an epidemic. But since no two hospitals, even in the same city, consistently have their peaks of the disease at the same time, we do not attempt to explain the yearly fluctuations.

This material is presented not because it is considered complete or accurate but with the hope that we may receive correction of errors in the material presented, information from hospitals which have already submitted data that we have been unable to utilize because of variations of classification, and replies from hospitals with which we have not communicated.

SUMMARY

1. The yearly admission rate for rheumatic fever in a selected series of hospitals in the United States and Canada is greater in the northern than in the southern regions of the continent.
2. In twelve out of fifteen hospitals supplying data for an adequate period of time, the average annual frequency of rheumatic fever previous to 1918 is greater than that subsequent to 1918.
3. Since the year 1918 the disease has not shown a uniform tendency to decrease in frequency in the hospitals of this series.
4. Our figures for the final two years of the study, 1924 and 1925, demonstrate an increased rate of rheumatic fever in some of the hospitals of the series. This change is most marked in the Presbyterian Hospital in New York. Other hospitals which show the same tendency are St. Vincent's, Portland, Ore.; Peter Bent Brigham, Boston, and Johns Hopkins, Baltimore.

AN EXPERIMENT IN THE APPLICATION OF DIABETIC DIETETICS

WITH REPORT ON ONE HUNDRED CASES

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BROOKLYN

Realizing the futility of the majority of efforts made to obtain the consent of the patient with mild diabetes to hospitalization that the necessary data essential for accurate dieting and treatment with insulin may be secured, and that the excuse most frequently offered was the loss of time from work and the incidental cost, the plan outlined herein was devised and has had a year of trial with results that seem to justify its continuance. A local organization consented to finance the experiment for a year, but the plan has financed itself and the demand for the service suggests the probability that it will continue.

In the center of the retail business section of the city was opened what is called a "Diabetic Dining Room." It is conducted by a clinician with the assistance of a competent dietitian who has had special training in diabetic dietetics. Records of more than a hundred cases are available for anlaysis. Patients are not accepted unless referred by a registered physician, and no treatment of any kind is suggested except in the report to the physician. If requested by the physician, the patron will be instructed in the administration of insulin.

It is thought that this is the first successful attempt to establish a center where the physician may obtain the desired information without greatly interfering with the patient's occupation. (Patients frequently state that they would have postponed the procedure if going to the hospital had been the alternative.) Furthermore, it is believed that such data are more informative of the patient's actual carbohydrate burning capacity than that secured from the artificial existence in the average hospital.

THE PLAN

Special effort is made to provide an attractive service. In addition to the standard foods, such delicacies as the market affords are served. This impresses the patients with the fact that they are not doomed to a routine. On admission, the normal basal metabolic rate

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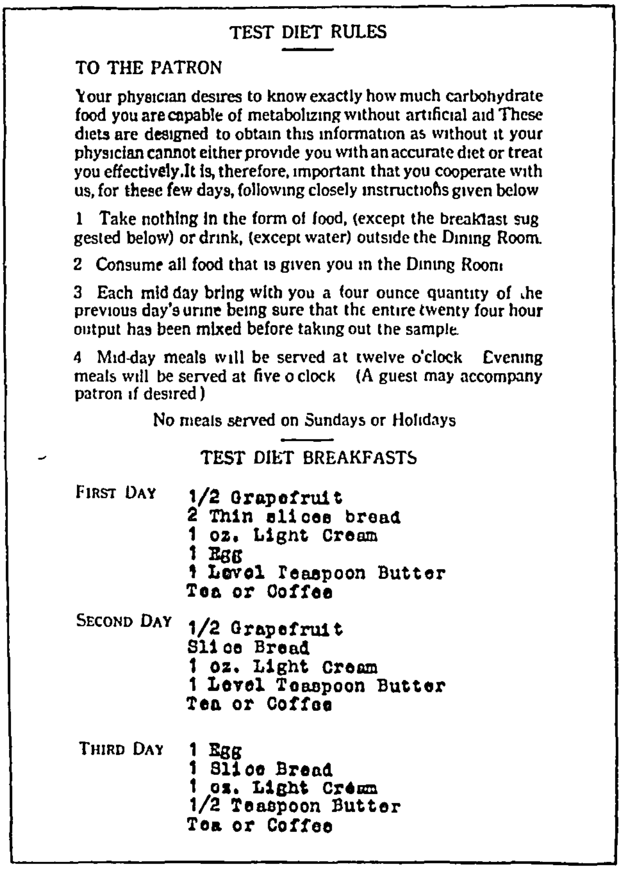
[8] Swift, H. F.: Rheumatic Fever, in Nelson's Medicine 1, insert to p. 430.

[9] Lambert, Alexander: The Incidence of Rheumatic Fever at Bellevue Hospital, J. A. M. A. 74: 993 (April 10) 1920.

(Boothby and Sandiford) is determined, and instruction in food value calculation and in the "home testing" of urine is begun. A table of calorific values of the ordinary foods is supplied and the patient is required to memorize most of it—not a difficult task. A card prescribing carefully stipulated breakfasts to be taken at home is provided (fig. 1), and the patient is told to follow carefully the stipulations and report the next day for his midday meal, when the actual dining room routine is begun. Only midday and evening meals are given in the dining room.



TEST DIET RULES

TO THE PATRON

Your physician desires to know exactly how much carbohydrate food you are capable of metabolizing without artificial aid These diets are designed to obtain this information as without it your physician cannot either provide you with an accurate diet or treat you effectively.It is, therefore, important that you cooperate with us, for these few days, following closely instructions given below

1 Take nothing in the form of food, (except the breakfast suggested below) or drink, (except water) outside the Dining Room.

2 Consume all food that is given you in the Dining Room

3 Each mid day bring with you a four ounce quantity of the previous day's urine being sure that the entire twenty four hour output has been mixed before taking out the sample.

4 Mid-day meals will be served at twelve o'clock Evening meals will be served at five o clock (A guest may accompany patron if desired)

No meals served on Sundays or Holidays

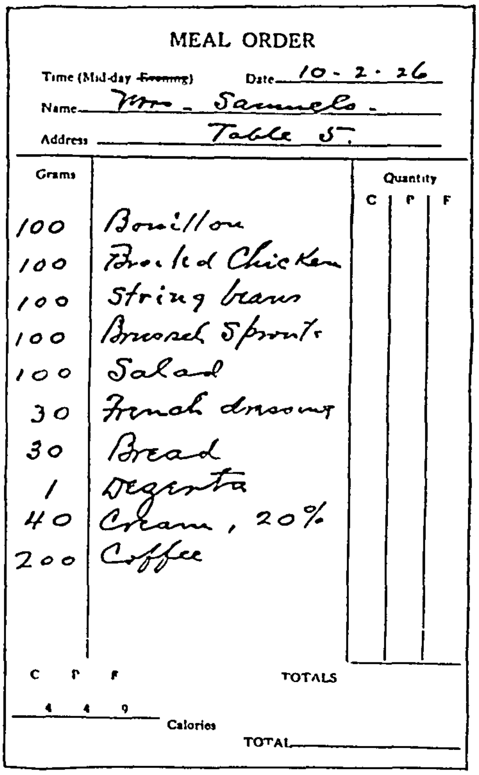
TEST DIET BREAKFASTS

FIRST DAY	1/2 Grapefruit 2 Thin slices bread 1 oz. Light Cream 1 Egg 1 Level Teaspoon Butter Tea or Coffee
SECOND DAY	1/2 Grapefruit Slice Bread 1 oz. Light Cream 1 Level Teaspoon Butter Tea or Coffee
THIRD DAY	1 Egg 1 Slice Bread 1 oz. Light Cream 1/2 Teaspoon Butter Tea or Coffee

Fig 1.—Stipulated breakfasts and rules

On the first day there is given a meal of low-value foods consisting of carbohydrate 100, protein 50 and fat 100, totaling 1,500 calories about equally divided into the three meals. The patient, previously instructed, collects the entire twenty-four hour output of urine and brings a sample when coming for the next day's midday meal. It was suspected at the start that this detail would be difficult of enforcement; but such has not been the experience, so much have the patients been interested in their own welfare. The urine is examined before the patient begins the second day ration; if sugar is found, the carbohydrate ration is reduced to 80 Gm.; if under this reduced ration sugar continues to appear, the third day's carbohydrate ration is made to conform to the patient's minimum carbohydrate need (1 Gm. to 1 Kg.); if sugar continues to appear on this minimum allowance, insulin is given in gradually increasing doses until the urine is sugar free. (The beginning dose of insulin was 2 units three times daily.) The urine being now sugar free, a blood sugar estimation is made to determine the renal threshold. By this time, patients are usually sufficiently familiar with food value calculations to be permitted to care for themselves at home; they are given record blanks, to be filled in at home, and are told to return in a week for a check up. In those very mild cases in which the urine did not show sugar on the first day's ration, the carbohydrate allowance was increased 10 Gm. daily until sugar did appear. In cases of severe diabetes this routine had to be modified, but in a large majority of cases it was found ample.

At each meal the patient himself is required to calculate the food value of each portion served (fig. 2). Beyond question this is the most valuable part of the procedure, for, until the diabetic patient learns to calculate accurately food values by himself, he cannot hope for any permanence in his improvement. At the beginning the patients are slightly confused, but persistence on the part of the dietitian soon qualifies even ignorant foreigners to feed themselves with surprising accuracy. Several of the patients were unable either to understand or to write English, but with the help of a school child or an English speaking neighbor, they soon became able to "live within their limits" and improved accordingly. Diabetic scales are an essential; they simplify the calculation and serve to impress the patient with the importance of accuracy in diet.



MEAL ORDER

Time (Mid-day ~~Evening~~) Date 10-2-26

Name Mrs. Samuels.

Address Table 5.

Grams		Quantity C	Quantity P	Quantity F
100	Bouillon			
100	Broiled Chicken			
100	String beans			
100	Brussel Sprouts			
100	Salad			
30	French dressing			
30	Bread			
1	Dezerta			
40	Cream, 20%			
200	Coffee			

	C	P	F
TOTALS			
Calories	4	4	9

TOTAL

Fig 2.—Blank on which patients are required to calculate the food value of each portion served.

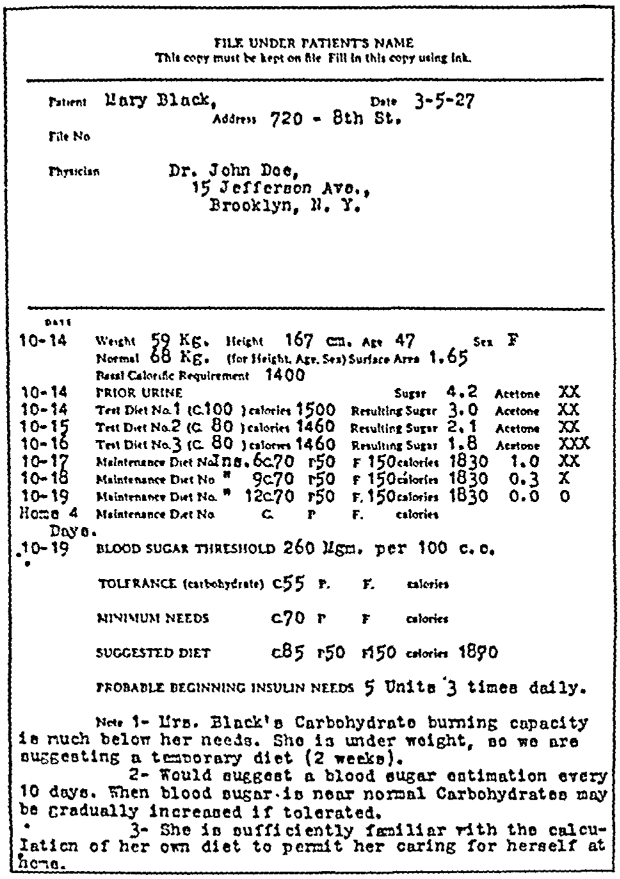
The necessary information having been secured, a copy of a carefully kept record, together with comments and recommendation (fig. 3), is sent the physician who referred the case, and the patient thereafter remains under his control.

DIGEST OF RESULTS IN FIRST HUNDRED CASES

Of ninety-seven patients who completed the course, sixty-two were women and thirty-five were men. One was a 13 year old girl. Eighty-nine of these patients continued at their usual work.

Twelve required insulin, and all were taught to administer it to themselves. Six discontinued the use of unnecessary insulin.

There were five cases of renal glycosuria. Seventy patients had + + or more of acetone on admission. Five had severe cases of diabetes and should have been in a hospital, but they refused to go, "having been there previously."



FILE UNDER PATIENT'S NAME
This copy must be kept on file Fill in this copy using ink.

Patient Mary Black, Date 3-5-27
Address 720 - 8th St.
File No
Physician Dr. John Doe,
15 Jefferson Ave.,
Brooklyn, N. Y.

Date							
10-14	Weight 59 Kg. Height 167 cm. Age 47 Sex F Normal 68 Kg. (for Height, Age, Sex) Surface Area 1.65 Basal Calorific Requirement 1400						
10-14	PRIOR URINE				Sugar	4.2	Acetone XX
10-14	Test Diet No. 1 (C. 100) calories 1500				Resulting Sugar	3.0	Acetone XX
10-15	Test Diet No. 2 (C. 80) calories 1460				Resulting Sugar	2.1	Acetone XX
10-16	Test Diet No. 3 (C. 80) calories 1460				Resulting Sugar	1.8	Acetone XXX
10-17	Maintenance Diet No. Ins. 6	c70	P50	F 150	calories 1830	1.0	XX
10-18	Maintenance Diet No " 9	c70	P50	F 150	calories 1830	0.3	X
10-19	Maintenance Diet No. " 12	c70	P50	F. 150	calories 1830	0.0	0
Home 4 Days.	Maintenance Diet No	C.	P	F.	calories		

10-19 BLOOD SUGAR THRESHOLD 260 Mgm. per 100 c. c.

TOLERANCE (carbohydrate) C55 P. F. calories

MINIMUM NEEDS C70 P F calories

SUGGESTED DIET C85 P50 F150 calories 1890

PROBABLE BEGINNING INSULIN NEEDS 5 Units 3 times daily.

Note 1- Mrs. Black's Carbohydrate burning capacity is much below her needs. She is under weight, so we are suggesting a temporary diet (2 weeks).

2- Would suggest a blood sugar estimation every 10 days. When blood sugar is near normal Carbohydrates may be gradually increased if tolerated.

3- She is sufficiently familiar with the calculation of her own diet to permit her caring for herself at home.

Fig. 3.—Specimen of report sent to physician.

Nine days was the average time spent at the dining room, and the average cost to the patient was $22.

Contrary to expectation there was very little disposition to violate rules; instead, 90 per cent became enthusiastic in their cooperation and many of them today are remarkably proficient even in the larger aspects of the science of dietetics. The "laboratory work," as one patient termed the dining room drill in calculations, was a source of genuine interest and qualified all the patients to feed themselves at home with accuracy. All patients are told that they will be required to feed themselves at home, keeping full records (fig. 4) for a week before being discharged, and most of them proved capable of doing so when the test-period reports came back. Special stress is laid on the avoidance of gluten foods, and all are encouraged to take the same food prepared for other members of the household.

Without exception, all who completed the course have been markedly benefited; the blood sugar in all the mild cases has fallen to near normal; the obese have lost weight, and the underweight have gained. The plan is not complicated and may be employed in any hospital providing a dietitian trained in diabetic dietetics.

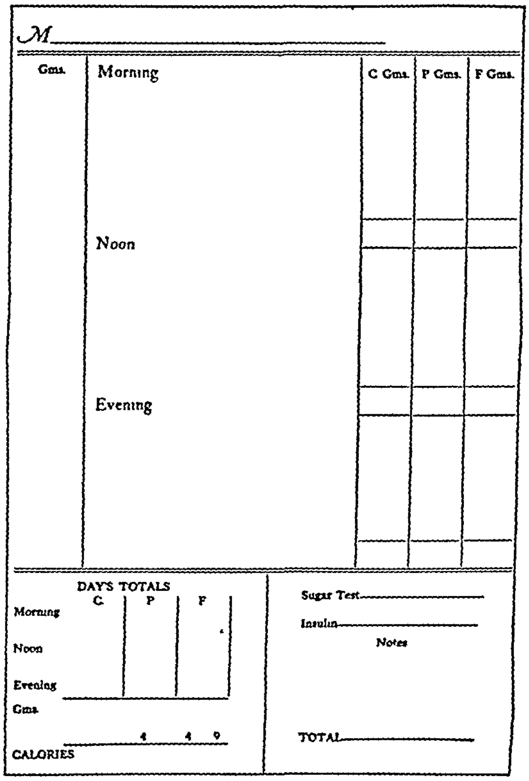
REPORT OF CASE

The following report is a concrete illustration of the use of this method in one case.

C. A. S., a man, aged 42, weighing 61 Kg. (normal, 70 Kg.) after a stay of three weeks in the hospital, went home with the urine sugar free and with a blood sugar of 13.5 per cent. Four weeks later he came to the dining room with a urine sugar of 3.5 per cent; he had been dieting by himself, using household measurements. He had no knowledge of his carbohydrate tolerance, nor was he able to test his urine at home. After four days of routine he was capable of accurately calculating his diet; on the seventh day he was sent home with a tolerance of carbohydrate, 70; protein, 70, and fat, 120. A week later he returned with a sugar-free urine and a blood sugar of 14.8 per cent. His "home records" were models of accuracy. Ten months later his carbohydrate tolerance had increased to 140 and the urine was still sugar free. By this time the patient had acquired such proficiency in feeding himself "by the estimation method," through a persistent use of the scales, that he took a two weeks sea voyage, leaving his scales at home (but not the Benedict's solution) and returned with a sugar free urine and a blood sugar of 15.5 per cent.

SUMMARY

1. The plan is designed to obtain essential data and to instruct the diabetic patient in the calculation of food values without hospitalization, thus permitting him to follow his usual occupation.



M

Gms.	Morning	C Gms.	P Gms.	F Gms.
	Noon			
	Evening			

DAYS TOTALS

	C	P	F
Morning			
Noon			
Evening			
Gms			
CALORIES	4	4	9

Sugar Test
Insulin
Notes
TOTAL

Fig. 4.—Home record form.

2. The data so obtained reveal the patient's carbohydrate burning capacity more accurately than if obtained by hospitalization.

3. The calculations by the patients of the food values of each portion of food served is an efficient objective means of qualifying them to employ the method at home.

4. The plan is workable in hospitals in which the personnel includes a competent dietitian.

61 Greene Avenue.

LINSEED OIL DERMATITIS

F. J. VOKOUN, M.D.
CLEVELAND

I began the study of linseed oil dermatitis when I was appointed industrial physician for the Sherwin Williams Company, paint manufacturers of Cleveland. In the manufacture of paint, linseed oil is an important factor. One of the plants of this company is devoted to the production of linseed oil, and it is in this plant that the cases were found.

For many years it was noticed that dermatitis was rife among the workers in the mill. The cases were usually mild—some of these persons had areas on the hands or feet which caused symptoms of itching or burning but were not severe enough to incapacitate them. However, soon after taking over the work from this plant I was confronted with three severe cases of dermatitis which necessitated keeping the men home from work. These cases were serious and brought the matter forcibly to my attention.

My recent preliminary paper[1] on this subject included a presentation of three cases, with a report of the symptoms and therapeutic procedure. Since then I have made careful investigations and gathered data which ought to be of more extended interest.

Questionnaires were sent to the larger linseed oil mills of the country, and the case reports on file with the Sherwin Williams Company have been studied for the last three years. As a result of this investigation, the following data have been collected.

W. J. Aldrich, welfare director of the Spencer Kellogg Company, which has linseed oil mills in five different cities, reports as follows:

> I have in my last twelve years' experience in connection with the linseed oil industry given this matter considerable study and have consulted various physicians on the subject, but they have never been able to give very satisfactory information. As the experience of a layman may be of interest to you nevertheless, I will answer the questions to the best of my ability in the order in which you ask them.
>
> 1. As to the number of cases reported in the last five years, I could not give you this definitely, as we have not kept a record of them. Taking all of our mills together, we think they have run into the hundreds.
>
> 2. As to the place from which the seed came that causes the oil dermatitis, our data on this point are not altogether accurate, but we think the seed from South America is more irritating than the seed from Canada or the Northwestern states. A number of years ago considerable seed was imported from India, and our experience was that this seed was more irritating than others.
>
> 3. As to the nature of the eruption, it is usually on the forearm and hands. Occasionally it has appeared on the body, about the neck, shoulders, breast and upper back, but the latter is not very frequent and only in cases in which the man has an exceptionally tender or sensitive skin.
>
> 4. As to the treatment, we have found that whenever a man has laid off for three or four days, the irritation immediately disappeared. We have also found that in most instances the irritation has been caused by the man using burlap to wipe the oil and meal from his hands and forearms between pressings, which in itself is exceedingly rough and irritating and contaminated more or less with infectious substances. We have found that the use of sterilized rags or towels in place of the burlap has caused this irritation to disappear to a large extent. In addition, a thorough cleansing with soap after the work period has been decidedly effective.
>
> We have found that it is not always an easy matter to induce the men to be particular as to the matter of this cleansing, but wherever they have followed our instructions the irritation has practically disappeared.
>
> In the more aggravated cases we have used with good results a sulphur salve combined with 16 per cent balsam of Peru. This treatment, combined with the above mentioned sanitary precautions, has cured nearly every case without the necessity of the man taking time out from his work. However, an occasional case occurs in which a man has a tender and sensitive skin and a week's layoff has been found necessary; but this is exceptional.
>
> 5. Your question as to which seed gives the greatest trouble has been partially answered in the fourth paragraph. I will repeat that the Indian seed gave us the greatest trouble. The seed we now use is from South America and Canada, and we think that from South America is more irritating than the Canadian seed. We are not inclined to think that this is an essential factor.

Dr. Barnett Kooperman, who has taken care of the men in the Spencer Kellogg mill at West New York, N. J., for the last eight years, reports:

> I believe that "linseed oil dermatitis" is a wrong term, as the linseed oil does not cause dermatitis. The inflammation is caused by the dust from the flaxseed—both ground and the seed. I have treated approximately 400 cases of linseed dust poisoning within the last five years. It seems that blond people, German, Norwegian, Swedish and all northern European people, are more subject to the dermatitis than are the Italian, Spanish and other dark complexioned people. Colored people are attacked the same as the northern Europeans.
>
> As 95 per cent of our seed comes from Argentina, I am in no position to say which seed causes less skin irritation.
>
> The nature of the eruption is a weeping eczema. It has been my experience to use a number of remedies, but I find the following the most efficient: menthol, 2 grains (0.13 Gm.); phenol (carbolic acid), 1 grain (0.065 Gm.); sufficient 2 per cent ammoniated mercury to make 1 ounce (30 Gm.). Or balsam of Peru, 1 drachm (4 Gm.), and sufficient 1 per cent ammoniated mercury to make 1 ounce (30 Gm.).

The Mann Brothers of Buffalo reported that they have no record of any linseed oil dermatitis with the possible exception of one doubtful case. Their physician made no report, so we cannot place much value in this reply.

A careful study of the records of the Sherwin Williams Company for the last three years does not reveal any report of men treated primarily for dermatitis, with the exception of the cases I have already cited. However, in a discussion with Mr. Kramer, who was superintendent at the mill for three years, I evolved that:

> 1. Minor attacks of dermatitis were very common among the workers and many of them used sulphur ointment to relieve them.
>
> 2. Flaxseed from South America was much more irritating than that from the United States or Canada.
>
> 3. The condition was rarely so severe that the men had to stop work, although occasionally they would take a "vacation" until their skins became sound.
>
> 4. During the three years of his superintendency, he saw hundreds of cases of dermatitis.

From my experience with this condition I have made several observations. The lesions are usually on the anterior aspects of the arms, the dorsa of the hands, and the anterior aspects of the thighs (in those men whose thighs touch the oil in their work). The lesions are symmetrical, discrete, deep, and thickly scattered, and consist of primary macules and papules with secondary scratch marks and crust formation. The symptoms are intolerable itching and burning, especially after bathing or retiring for the night.

In the differential diagnosis, scabies must be ruled out. This was carefully done in all cases. The

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[1] Vokoun, F. J.: Linseed Oil Dermatitis, Ohio State M. J. 23: 229 (March) 1927.

Wassermann test should also be employed to rule out a possible atypical secondary rash. If the diagnosis is difficult, a simple test will prove it: Have the men stay away from work for a few days, and they will improve if their dermatitis is due to the oil.

In my experience sulphur ointment, calamine lotion, 5 per cent white ammoniated mercury and Lassar's paste have failed to give relief in severe cases. The only thing to do for these sufferers is to grant them a "vacation" until their epidermis becomes intact.

CONCLUSIONS

1. Dermatitis is very common among the workers in linseed oil mills.
2. The areas affected are those which come in contact with the oil, this being an example of dermatitis venenata.
3. The cases occur more frequently when Indian or South American seed is being pressed than when Canadian or American seed is used, so that it may be assumed that the irritating substance is in larger proportion in the former seeds.
4. The exact nature of the irritating substance is at present undetermined.

2767 West Twenty-Fifth Street.

ACUTE CARDIAC DILATATION

AN EVER PRESENT DANGER IN INTRAVENOUS INJECTIONS *

J. H. CLARK, M.D.
PHILADELPHIA

A comparatively few years ago, the injection of drugs into the circulation was considered a somewhat dangerous practice and as a daily procedure was viewed as radical therapy. Today, however, it has become a well recognized therapeutic method of administering drugs, and almost everything in the Pharmacopeia is prepared in ampule form for intravenous use. The procedure is not, however, unattended with danger. Even simple intravenous injections of supposedly innocuous physiologic sodium chloride solution or dextrose in saline solution may prove disastrous, if the cardiac condition of the patient is considered of secondary importance to the accepted intravenous therapy or his general condition. The practice has become so prevalent that intravenous injections of saline or dextrose solution are employed, almost as a routine measure, even in the presence of a failing myocardium, when the patient's general condition appears to be failing or he is in need of fluid which cannot be taken by mouth. The bad and possibly fatal effect of the extra load thrown rapidly on the heart is lost sight of in the attempt to give the patient the required fluid or antiketogenic substance.

Recently, at the Samaritan Hospital, we have had two deaths occurring in patients shortly after intravenous injections of 10 per cent dextrose solution, and one after physiologic sodium chloride solution (charts 1, 2 and 3). Of the two patients receiving dextrose solution, each experienced chills about twenty minutes after the injection. Their pulses became irregular and feeble, and they died within four and nine hours after the injection. One had received previous injections of dextrose solution without exhibiting such phenomena.

REPORT OF CASES

Case 1.—A woman, aged 39, had auricular fibrillation before the performance of a cholecystostomy for gallstones, Nov. 29, 1926. Her immediate postoperative condition was good. The wound drained well, and there was slight arrhythmia after operation. December 1, the patient received 500 cc. of a 10 per cent dextrose solution intravenously without reaction. This was repeated, December 2, and again, December 3, without reaction. The patient's general condition improved. December 4, at 2 p. m., immediately following an intravenous injection of 10 per cent dextrose solution, the patient had a chill of twenty minutes' duration, and complained of severe pain in the region of the heart and of a sense of oppression. She became progressively more cyanotic and expectorated continuously small quantities of whitish fluid (edema of lungs?). The pulse was irregular and scarcely perceptible. Death occurred at 11 p. m.

Case 2.—A man, aged 35, had a vesiculostomy and prostatectomy performed, Dec. 9, 1926, for purulent vesiculitis and perirectal phlegmon. He developed hiccup and vomiting. The blood pressure fell from 120 systolic and 65 diastolic to 60 systolic and 30 diastolic, December 13. On this date at 10:50 p. m. the patient was given 475 cc. of a 10 per cent dextrose solution intravenously. Chill developed at 11:10 p. m., the patient became cyanotic and despite stimulation died at 2:40 a. m., December 14.

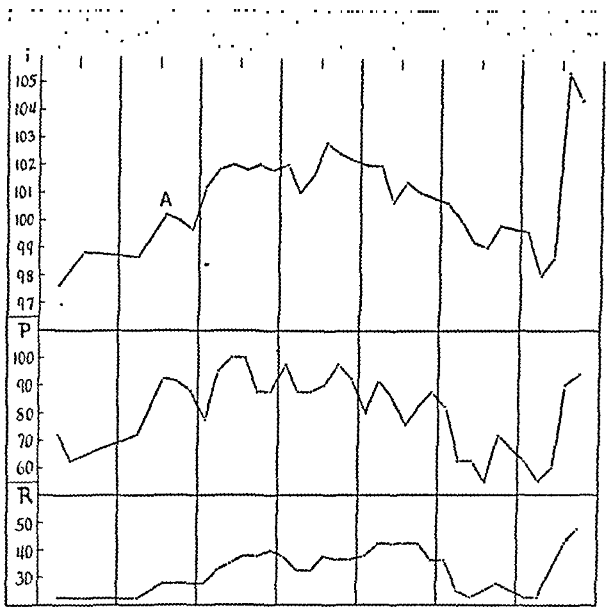

Chart 1.—Temperature, pulse and respiration in case 1: *A*, after operation.

Case 3.—A girl, aged 9 years, at midnight, Feb. 7, 1927, had an appendectomy performed for a gangrenous appendix. Her immediate postoperative condition was good. February 8, she received 250 cc. of Fisher's solution by bowel. Februry 9, vomiting developed. The patient was given 500 cc. of a 2 per cent dextrose solution by hypodermoclysis at 12:45 p. m. At 4:45 she received 425 cc. of physiologic sodium chloride solution intravenously through a small hypodermic needle. At 5 o'clock the patient became cyanotic; breathing was labored; the pulse was rapid and thready, and a chill developed, lasting one-half hour. Venesection was attempted at 6:05 but without result, as the veins were collapsed. The patient died at 6:22 p. m. from acute cardiac dilatation.

COMMENT

At our clinical pathologic conference, it was suggested by some that these deaths might be due to some impurities in the dextrose solution, to alterations in the molecular constitution produced by sterilization, or to the formation of by-products on standing. However, all the dextrose solution used for intravenous work at the Samaritan Hospital is prepared daily in 500 cc. flasks from dextrose U. S. P., and what is not used on the day of its preparation is discarded. Checking over the histories of patients in the hospital who received intravenous injections of dextrose on the same date, we could not find any similar reactions. This seemed to rule out the possibility of dextrose being responsible. However, that a personal idiosyncrasy to dextrose in case 2 might exist must be kept in mind. Hanzlik and Karsner,[1] in an experimental study of anaphylactoid phenomena, concluded that intravenous injections of sucrose in hypertonic concentrations of 50 and 85 per cent are moderately though definitely injurious to the lungs, although symptomatically they appear to be indifferent. They did not, however, include dextrose in their study, and the results are not, therefore, directly applicable to dextrose, although suggestive.

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* From the laboratory of the Samaritan Hospital.

On the other hand, Hewlett[2] states that "a dilatation of the ventricle may be caused either by a weakening of the muscle with a lessening of the ventricular tone or by an increase in the demands on the heart." In patients whose hearts have already been subjected to nervous or toxic trauma, by operation or toxemia, both factors are at work, particularly when comparatively large quantities of fluid are thrown directly into the circulation in a short period of time. He states further that:

> A temporary increase of work leads to a further but temporary increase in the size of the heart, which within limits aids the cardiac contractions. If, however, the acute dilatation exceeds a certain limit it may exert a very unfavorable effect upon the cardiac function. Excessive dilatation lessens the contractile force of the muscle and the changes that characterize acute cardiac failure then supervene. The dilated ventricle fails to expel the blood coming to it, the venous pressure rises, and this in turn tends to distend the ventricular cavity still further during diastole. . . . If, however, the demands are not reduced below the functional capacity of the weakened muscle, the continued collection of blood in the dilated ventricle leads to a cardiac death.

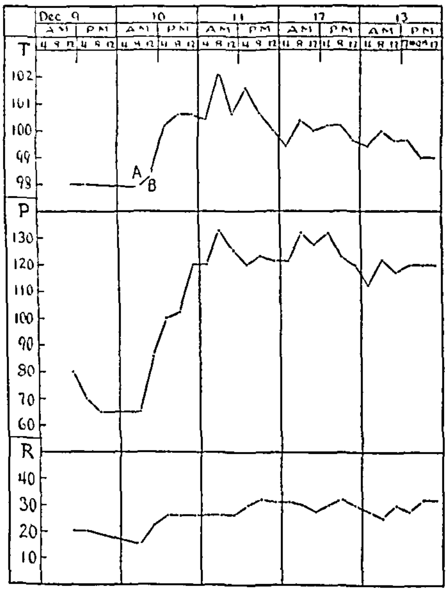

Chart 2.—Temperature, pulse and respiration in case 2: *A*, before operation; *B*, after operation.

This, it seems to me, is what happens when intravenous infusions of physiologic sodium chloride solution or 10 per cent dextrose solution are administered to patients already showing cardiac impairment, as evidenced by a weak rapid pulse.

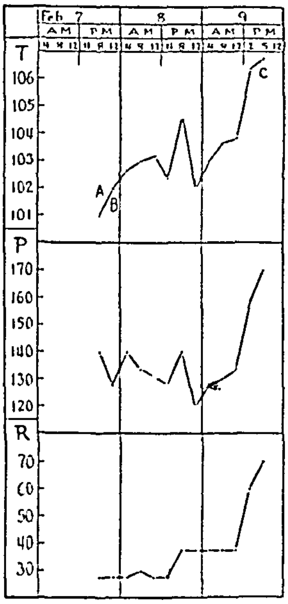

Chart 3.—Temperature, pulse and respiration in case 3: *A*, before operation; *B*, after operation; *C*, by rectum.

Another death occurring on the outside, as detailed to me by the assistant of the attending physician, illustrates quite clearly the cardiac death described by Hewlett. The patient, a victim of abortion, showed definite toxic signs and symptoms, and an intravenous injection of 500 cc. of 10 per cent dextrose solution was ordered. This was administered slowly by gravity, through a small caliber needle. After about 250 cc. had entered the circulation, the pulse improved in both regularity and volume, although no blood pressure determinations were made; the patient stated that she felt improved and she appeared brighter and stronger. The intravenous injection was continued until the total amount of 500 cc. had been given. The temporary improvement, however, noted after 250 cc. had been administered, was replaced by the former weak, thready condition of the pulse, and the patient died shortly after the infusion. Acute cardiac death is also illustrated by case 3. The solution was given through a hypodermic needle, and, while probably not given too rapidly, nevertheless caused serious embarrassment to the heart, for the patient became dyspneic and cyanotic after 425 cc. of physiologic sodium chloride solution had been given intravenously and died about one and a half hours later. Venesection was attempted to relieve the cardiac dilatation, but without results. Again in case 1, although bedside notes were not made by the physician or intern regarding the condition of the lungs by auscultation, or of the blood pressure, the continuous expectoration of small amounts of a whitish fluid, after the injection, is extremely suggestive of a pulmonary edema and failing right heart, aided, at least, by the additional fluid given intravenously.

CONCLUSION

Intravenous therapy is not the innocuous procedure it is generally considered, and these four cases illustrate the necessity of carefully choosing patients for the intravenous administration of drugs, particularly when large amounts of fluid are to be given. If the injection is given slowly and a careful watch is kept of the pulse and cardiac condition, by frequent blood pressure determinations made during the injection, such fatalities should be preventable.

3343 North Twentieth Street.

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[1] Hanzlik, P. J., and Karsner, H. T.: J. Pharmacol. & Exper. Therap. **23**: 173 (April) 1924.

[2] Hewlett: Pathological Physiology of Internal Diseases, New York, D. Appleton & Company, 1924, pp. 15, 19.

REPEATED ACIDOSIS AND COMA IN JUVENILE DIABETES *

THOMAS A. CLAWSON, Jr., M.D.
AND
GEORGE A. HARROP, Jr., M.D.
BALTIMORE

The eventual prognosis in patients with juvenile diabetes has aroused great interest recently, since it has become quite evident that modern methods of treatment are of especial value in this type of the disease. It has been frequently emphasized that diabetes in childhood and in youth is usually uncomplicated by any of the numerous extra factors that may be present in later life. Diabetic children in the absence of severe infection usually respond very readily to dietary measures and to insulin, and severe acidosis or coma, in general, is quite as amenable to treatment as it is in older patients in whom diabetes is generally considered to be less severe. Recent articles by prominent American students of the disease (Joslin, Geyelin) indicate that the experience gained in the study of large series of cases since the introduction of insulin gives just cause for a considerable measure of optimism. In sharp contrast to this point of view are the conclusions reached by recent German observers,[1] who are decidedly pessimistic. Doubtless it is entirely too soon to expect definite conclusions as regards this difficult problem. It should be borne in mind that reliable and standardized insulin preparations were available for use on the continent much later than in this country.

That proper medical direction and the constant and intelligent obedience to instructions are in any event indispensable for the successful management of patients with juvenile diabetes we believe is well shown in the accompanying case report, which records twelve successive periods of severe acidosis or coma in a colored child, following dietary indiscretions, and, in one instance, of infection. Death finally resulted outside the hospital, evidently in coma, because the family did not apply for medical aid.

REPORT OF CASE

B. W., a colored girl, aged 11 years at the time of the first admission, Jan. 29, 1924, to the Johns Hopkins Hospital in diabetic coma, had become suddenly ill about six weeks before, with polyphagia, polyuria and polydipsia. It was noted that she tired very easily and that there was gradual loss of weight. Her past history was not significant: pertussis at 3 years, measles at 5 years and two attacks of tonsillitis at 7 and at 8. There had not been any other infections. The family history did not include any cases of tuberculosis obesity, diabetes or obvious endocrine disorder. During the following thirty-four months, until death occurred outside the hospital, Nov. 26, 1926, she was admitted twelve times in severe acidosis or coma, and in all spent 549 days out of the intervening 1,131 days in the ward. Death finally occurred owing to the fact that she was not brought to the hospital for treatment following a dietary excess on Thanksgiving Day, 1926. All the attacks were severe, but the patient responded with relative ease to treatment in each of them. The dietary lapses were in all instances primarily due to neglect. Either the child was allowed to shift for herself at home or she stole food or candy because supervision at home was completely lacking. Strenuous efforts were continuously made by the social service department of the hospital to secure some measure of cooperation, or permission to place the child in a home where proper care would be assured. Unfortunately, it was impossible to do anything that would be permanently satisfactory. The accompanying table gives the salient facts recorded during the course of the disease.

Course of the Disease

Admission	Date of Admission	Condition	CO_2 Capacity (Van Slyke) per Cent by Volume	Probable Cause from the History	Date of Discharge	Diet on Discharge				Insulin Dosage on Discharge, Units	Growth Under Observation	
						Carbohydrate	Protein	Fat	Calories		Height, Cm.	Weight, Kg.
1	1/28/24	Coma	12	Previously untreated	3/25/24	68	48	162	1,925	0	139.5	27.3
2	6/20/24	Severe acidosis	14	No insulin; dietary excess	8/14/24	44	54	119	1,460	0	.....	....
3	9/20/24	Acidosis	23	Dietary excess	11/23/24	58	42	139	1,650	20	140.0	30.8
4	1/12/25	Acidosis	14	Dietary excess	3/ 2/25	63	40	148	1,750	30	140.0	34.4
5	4/30/25	Acidosis	20	Dietary excess	5/18/25	62	32	142	1,650	54	.....	....
6	6/11/25	Severe acidosis	17	Dietary excess	7/ 7/25	53	42	136	1,600	40	.....	....
7	7/27/25	Coma	9	Dietary excess	8/27/25	60	60	160	1,950	35	.....	....
8	9/23/25	Acidosis	38	No insulin; dietary excess	10/27/25	63	60	161	1,975	45	141.5	32.8
9	11/27/25	Coma	..	Dietary excess	1/13 26	60	50	160	1,900	30	142.0	35.2
10	2/ 4/26	Acidosis	..	Infection; tonsillitis	2/15 26	60	50	160	1,900	35	.....	....
11	4/11/26	Coma	16	No insulin; dietary excess	7/29/26	50	50	128	1,550	55	.....	....
12	10/26/26	Coma	..	Dietary excess	11/11/26	50	50	135	1,600	60	144.5	38.5

Died unattended outside the hospital in coma, due to dietary excess and lack of insulin, Nov. 26, 1926.

COMMENT

Aside from the unusual history of this patient, we believe that the case presents certain points for reflection. An inspection of the summarized table makes it evident that the diabetic condition gradually became more severe with each period of hospital observation. The carbohydrate tolerance in proportion to the insulin requirement grew progressively worse. We do not believe, however, that this is a fair indication of what might have been the course under proper treatment. The social conditions in which the child lived could scarcely have been worse, and the parents were almost completely devoid of intelligence or insight into the situation. We think that the fact that so many shocks and insults were withstood in so short a period, and that relief from severe acidosis or coma was repeatedly obtained so easily, indicates that under a more favorable environment a happier outcome might have been anticipated.

In the face of unreasonable resistance and lack of cooperation on the part of those responsible for the care of a diabetic child, it is very unfortunate that steps cannot be taken to commit the patient during the period of minority to an institution where proper care and dietary treatment might be given. We estimate that the cost to the Johns Hopkins Hospital of the periodic and perfectly futile rehabilitation of this patient, in large measure unnecessary under other circumstances, and exclusive of medical attendance, was about $2,500. Juvenile diabetes is not a very uncommon disease. This case is an unusually striking instance of several such cases which we have seen in this clinic in the indigent poor, and no doubt the same situation holds good in every large diabetic clinic. The continuous free supply of insulin to these patients, who often require large daily doses, is a serious financial burden. It is unfair to expect the medical outpatient departments of hospitals to assume this obligation indefinitely. It could properly be undertaken by public health authorities in the same way that biologic serums and antitoxins are rendered available, and the necessary and essential continuous medical supervision might properly be assumed by the same agency. That it will assuredly be necessary to work out some such public system of relief would seem certain.

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* From the Medical Clinic, Johns Hopkins Hospital and University.

[1] Priesel, R., and Wagner, R.: Die Pathologie und Therapie der kindlichen Zuckerkrankheit, Ergebn. d. inn. Med. u. Kinderh. **30**: 536, 1926.

THE NASAL APPLICATION OF SOLUTION OF PITUITARY FOR OBSTETRIC PURPOSES

PRELIMINARY COMMUNICATION

J. ISFRED HOFBAUER, M.D.
BALTIMORE

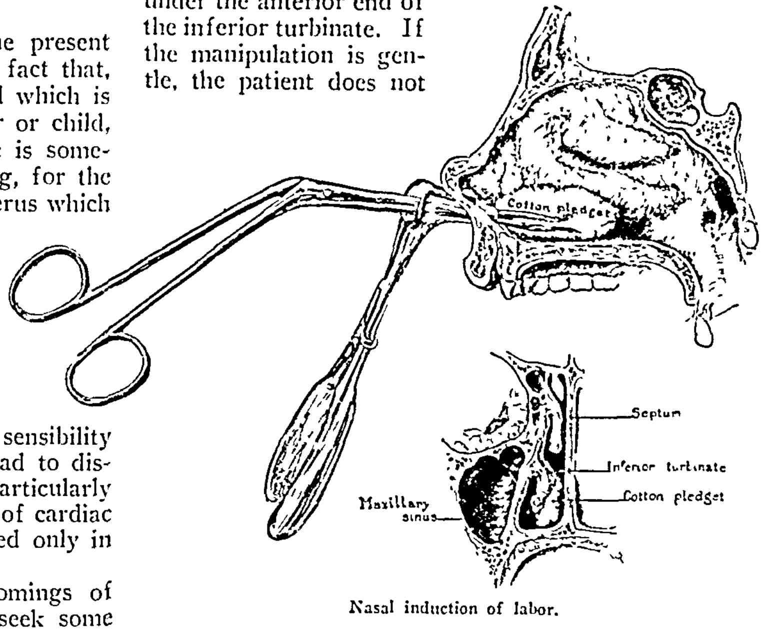
The recent clinical study of Scott on the present state of the induction of labor revealed the fact that, up to this time, no method has been devised which is altogether free from danger to either mother or child, and more particularly that Watson's technic is sometimes followed by death of the infant, owing, for the most part, to the tetanic contraction of the uterus which sometimes follows the use of solution of pituitary. Watson's method is based on the sensitization of the uterine muscle by the administration of castor oil and quinine, followed by the subcutaneous injection of 0.5 cc. of solution of pituitary at half hour intervals, until labor sets in or until six doses have been given. Those who have had experience with the method agree that undue sensibility to the action of solution of pituitary may lead to disastrous effects on the child; and as this is particularly likely to occur in the presence of toxemia or of cardiac complications, the method should be employed only in selected cases.

The general recognition of these shortcomings of Watson's method gave me the impetus to seek some method of improving it. Two main considerations guided my search for new channels through which solution of pituitary may be administered in a more effective and at the same time in a less dangerous way; the desiderata being to discover, if possible, whether its local application to some mucous membrane would permit its slow and steady absorption, and, if this were the case, to permit the possibility of withdrawing the drug as soon as the tendency of the uterus to pass into tetanic contraction became noticeable.

The oral administration of solution of pituitary was first considered, since the recent experimental work of Knaus showed that after the administration of the drug to the sublingual region a marked increase in the tone and automatic movements of the uterus occurred. We employed this technic in twenty patients, and labor was successfully induced in nine of them, an efficacy of 45 per cent. In eleven additional instances the sublingual application was employed to stimulate pains in women already in labor, but in whom the pains had stopped for a number of hours, irrespective of the degree of cervical dilatation and regardless of whether the membranes were ruptured or not, and satisfactory results were obtained in ten patients without ill effect to either mother or child.

In the search for another portal of entry from which the solution of pituitary could be absorbed more satisfactorily, my attention was directed particularly to the nasal mucosa, in view of the fact that the mucous membrane covering the inferior turbinate is a highly vascular tissue, whose blood and lymphatic supply is markedly increased during pregnancy. Since in the present communication I propose to deal chiefly with the therapeutic utilization of the nasal mucosa for the absorption of solution of pituitary, both through the blood stream and by way of the lymphatics, the accompanying semidiagrammatic representation of the lateral nasal wall will be of service in understanding the topography.

Under direct vision, with aid of a nasal speculum and reflected light, a small pledget of cotton of such size as to fit easily but snugly between the septum and the inferior turbinate, and moistened with from 10 to 20 minims (0.60 to 1.25 cc.) of solution of pituitary is inserted under the anterior end of the inferior turbinate. If the manipulation is gentle, the patient does not experience any appreciable discomfort, and in none of our cases was it necessary to resort to any kind of local anesthesia.



Nasal induction of labor.

Prior to the nasal application of solution of pituitary, the patient is prepared in the routine manner by being given a hot drink and castor oil and quinine by mouth, followed by a high enema. From two to three hours were then allowed to elapse before the administration of the first dose of solution of pituitary, in order to make sure that the preliminary treatment had not been sufficient to induce pains. Uterine contractions invariably follow within from three to five minutes after the nasal application. In the event that the first contraction lasts longer than four minutes, the pledget is withdrawn when the uterus relaxes within the next sixty or seventy seconds. If, however, tetanic contraction does not occur during the first fifteen minutes, it is considered that all danger from such an accident has passed.

Unless the first application has resulted in setting up satisfactory contractions, the pledget is withdrawn at the end of two hours, and a fresh one applied to the opposite nostril for a similar period of time. In the majority of my cases, from one to three applications were required for a successful induction of labor, but in a very few cases as many as five doses were necessary. It is important to bear in mind that experience shows that in preeclamptic cases labor can be induced with the greatest ease, one application of solution of pituitary usually being sufficient; whereas greater difficulty is encountered in the nephritic cases, in which the response is definitely less pronounced. It is interesting to note that in none of the toxemic cases did the blood pressure rise materially over the initial level during the course of induction. Furthermore, I gradually came to realize that while in normal pregnancy the nasal method is rarely effective much before term, it gives satisfactory results in toxic patients a month or six weeks earlier.

Up to the present, we have employed the nasal method of inducing labor in seventy patients; the indications are given in the accompanying table.

Indications for Nasal Application of Pituitary Extract

1. Toxemia	28 cases
2. Postmaturity	12 cases
3. Severe pyelitis	5 cases
4. Hydramnios	2 cases
5. Dead fetus	2 cases
6. To test the method in normal pregnant women during the last month of pregnancy and at term	21 cases

In groups 1 to 5 (forty-nine cases), labor was induced successfully in every instance. On the other hand, nine failures occurred in the sixth group. Here it was found that when the cervical canal measures 2 cm. or more in length, and the external os is tightly closed, the chances of success are comparatively poor; while the prospects are much better when the cervical canal is obliterated. This observation is quite in harmony with the results of Knaus' recent experiments, which indicate that considerable changes occur in the relationship between the hypophysis and the uterine muscle during pregnancy, and that as a result of an increase in the sensitiveness and the tone of the uterine muscle toward the end of pregnancy, labor can be induced in animals by comparatively small doses of solution of pituitary at term, although such doses are entirely ineffective before term.

The fact that in this series all the babies were born alive testifies to the control one possesses over the action of the drug. Furthermore, it may be mentioned that the nasal method has also been found a safe and efficient procedure for accelerating labor already in progress.

A more extended paper on the subject by me and my co-workers, Drs. Hoerner and Oliver, will shortly appear in the *American Journal of Obstetrics and Gynecology*.

Johns Hopkins Hospital, Washington and Monument streets.

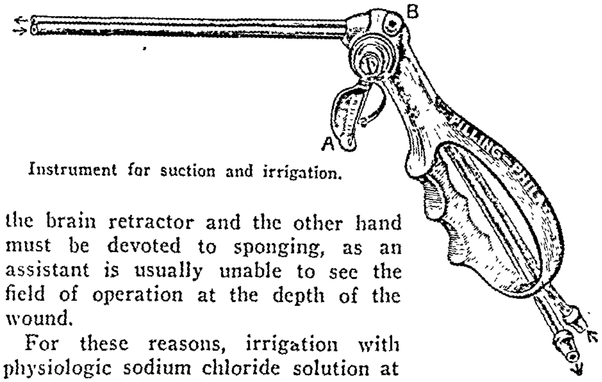
Clinical Notes, Suggestions and New Instruments

A NEW INSTRUMENT COMBINING SUCTION AND IRRIGATION FOR INTRACRANIAL SURGERY

Temple Fay, M.D., Philadelphia
Neurosurgeon, Episcopal Hospital; Associate in Neurology, University of Pennsylvania School of Medicine

The need for clear vision in the depth of a small field is well recognized by every neurosurgeon. Operations on the brain and spinal cord must be performed within a very limited area, such as the transfrontal approach to the pituitary body, the section of the posterior root of the trigeminus, and certain suboccipital operations involving the cerebellopontile angle.

The lighted retractor has proved invaluable in exploring these deep recesses below the brain. The great problem at present concerns the matter of sponging within the depths of the wound, so as to give a clear view of the structures and landmarks presenting during the operation. The extreme friability of the cortical vessels has made it necessary to use the softest cotton pledgets, small enough to be introduced into the limited space concerned. A small amount of hemorrhage in the depth of the wound arrests the progress of the operation until the bleeding point has been controlled. The use of many of these cotton sponges is necessary to remove even a small amount of blood. There is frequently the danger of leaving a small cotton pledget behind. The operator is often at a distinct disadvantage, because one hand is occupied by the brain retractor and the other hand must be devoted to sponging, as an assistant is usually unable to see the field of operation at the depth of the wound.



Instrument for suction and irrigation.

For these reasons, irrigation with physiologic sodium chloride solution at a temperature of 100 C., followed by suction as a means of clearing the field, has become of extreme value. Heretofore this method has been one of alternate irrigation and suction, and the operator has found it difficult to employ the proper procedure with sufficient rapidity to locate a small bleeding point. The instrument here illustrated has overcome this difficulty in that it combines both suction and irrigation, permitting the operator to direct accurately the flow of warm saline solution to the proper point, and withdraw the accumulating fluid as rapidly as necessary. The instrument is so designed that it may be used for irrigation alone or suction alone, if so desired, or, if suction and irrigation are required at the same time, this may also be accomplished.

The instrument is so balanced as to fit the hand with a pistol grip, the balance being entirely within the palm of the hand, so that the slightest movement of the point can be directed by the wrist. There is no danger of injuring structures because of an unwieldy instrument. The double barreled tip has been made of soft metal, so that it may be molded into any shape or direction that is desired, and the instrument can thus be used to reach inaccessible corners, or to follow the line of operative approach. The spring valve trigger (*A*) controls the irrigation of saline solution. It is so constructed that the valve remains closed until the trigger is pulled. The flow and amount of fluid delivered at the tip depends on the degree of opening of the valve. The height of the fluid container determines the pressure under which fluid is delivered. The "Tucker valve" (*B*), devised by Dr. Tucker in the Bronchoscopic Clinic of Dr. Chevalier Jackson, for suction and control within the depth of the lung, has been utilized in this instrument.

Placing the thumb over the hole in the suction valve (*B*) produces suction at the tip of the apparatus. When the thumb is removed, the air enters valve *B* and there is no suction at the tip. Thus, by a simple movement of the thumb, suction may be obtained. By the flexion of the index finger, irrigation to the desired amount is controlled. The instrument is so constructed as to give the possibility of combined suction and irrigation; and in dealing with hemorrhage from small vessels within the depths of the wound, the bleeding point may frequently be located by the reddish, smoky column arising from a given point, indicated within the body of the clear saline solution, illuminated by the lighted retractor. A muscle graft placed over the bleeding point will give the required hemostasis.

The added advantage of combined irrigation and suction is evident by the fact that the irrigation fluid is within a closed system coming by means of a sterile tubing from a closed water bath reservoir, suspended above the level of the operating table. The suction apparatus, which consists of a simple water pump connected to the ordinary water supply with an intervening container, withdraws the hemorrhage and discolored saline solution from the field. It eliminates the "sloppy" disadvantage of open irrigation and does much to produce a clean, dry field.

In laminectomy work this instrument has proved of decided value in preparing the field before the dura is opened. The muscle bed is repeatedly irrigated with warm physiologic sodium chloride solution. Frequently, many oozing points are thus controlled. The others may be located and carefully ligated. When the irrigation solution returns clear, the dura may be opened without danger of blood from the margins of the wound entering the spinal canal or obstructing the field.

The instrument has been constructed for me by George P. Pilling & Sons Company, Philadelphia, and can be obtained through their offices.

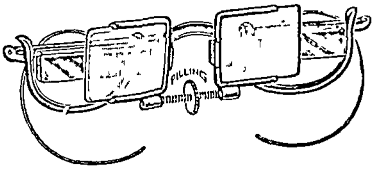
2025 Walnut Street.

FOLDING LOUPE

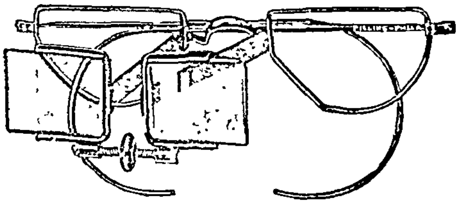
William W. Goldnamer, M D , Oakland, Calif.

Perhaps the most frequently used instrument of an ophthalmologist is a good binocular loupe.

Frequently it has been my misfortune not to have a loupe with me when away from the office, since I could not ordinarily carry one because of its bulk, as all loupes with which I was acquainted were very bulky. So I had alterations made on a Beebe loupe which would not add to its weight (this loupe was fitted with my correction). The loupe will fit in an ordinary number 5 spectacle case.



Loupe folded.



Loupe extended.

The obvious advantage of this will be instantly apparent to any ophthalmologist or to other physicians who need such an instrument.

The makers of this instrument, George H. Pilling and Son Company, Philadelphia, will be able to supply these folding loupes.

577 Fourteenth Street.

Special Article

THE QUARTERLY CUMULATIVE INDEX MEDICUS

WHAT IT STANDS FOR AND HOW TO USE IT*

FIELDING H. GARRISON, M.D.
Lieutenant Colonel, Medical Corps, U. S. Army
WASHINGTON, D. C.

During the year 1926, by arrangement between the American Medical Association and the Carnegie Institution of Washington, it was decided to fuse the *Index Medicus* (1879-1926) and the *Quarterly Cumulative Index* of the American Medical Association (1916-1926) to form the *Quarterly Cumulative Index Medicus,* financed jointly by the American Medical Association and the Carnegie Institution of Washington, compiled from material indexed and classified in the Libraries of the Surgeon General's Office (Washington) and the American Medical Association, and published by the American Medical Association. The new journal will be issued quarterly and cumulated semi-annually in two volumes. The first quarterly number (January-March) appeared in May, 1927. In acquainting our readers with the detailed merits of the new quarterly, it is fitting to give some account of its parentage.

PEDIGREE OF THE PARENT JOURNALS

The *Index Medicus* was started in January, 1879, by Drs. John S. Billings and Robert Fletcher as "a monthly classified record of the current medical literature of the world." This journal might be described as the grandchild of two ideas. Its parent, the Index Catalogue of the Surgeon General's Library, did not become known to the world as such until a year later (1880).

The germinal ideas were conceived in the brain of Billings when he was wrestling with his graduating dissertation on epilepsy at the Medical College of Ohio (Cincinnati, 1861), viz, "to establish for the use of American physicians a fairly completed medical library, and in connection with this to prepare a comprehensive catalogue and index which should spare medical teachers and writers the drudgery of consulting ten thousand or more different indexes or of turning over the leaves of as many volumes to find the dozen or so references of which they might be in search." In making a tabulation of seventy-four ascertainable cases of operations for epilepsy as the material for this dissertation, Billings found himself hard put to it for references and literature, which he obtained with the greatest difficulty, even by correspondence with the medical libraries of New York, Philadelphia and other American cities. He was driven to the conclusion that "while there was nowhere in the world a library which contained all medical literature, there was not in the United States any fairly good medical library" containing even a respectable fraction of this literature. In 1861, in fact, American research workers in medicine, if any, were driven to the several libraries in the European cities.

Billings found his opportunity on the last day of 1865 when, after arduous service as operative surgeon and medical inspector in Grant's campaign of 1864, he was assigned to the Surgeon General's office with nominal care (in addition to other duties) of the small collection of medical books which had existed in the War Department bureau since the days of Surgeon General Lovell (1818). How he gradually built up this collection (2,253 volumes in 1865) during the thirty years of his librarianship, first with the aid of a slush fund, then by annual appropriations from Congress, up to the 116 847 books and 191,598 pamphlets in the Library when he was retired from active service in the army (1895), is another story

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* Published by permission of the Surgeon General, U. S. Army, who is not responsible for any opinions or conclusions expressed herein.

During the fifteen years preceding the appearance of the first volume of the Index Catalogue (1866-1880), Billings was experimenting on all known methods of cataloguing and indexing medical literature, from the ordinary type of author entry to the Dewey system (1876) Subject entries, fitful and eclectic as those in the catalogue of the British Museum, begin to appear in his catalogue of 1871 (13 330 volumes) and by 1876, he had evolved and published his Specimen Fasciculus of a medical library catalogue, indexing itself, as to both authors and subjects Shortly after this event, Billings acquired an able and loyal assistant in the learned Dr Robert Fletcher, who was assigned to duty in the Surgeon General's Library Sept 1, 1876 As plans for the publication of the Index Catalogue approached fruition, it became apparent to the two editors that while such a publication might give the bulk or cream of the world's medical literature on each indexed subject (say Brain or Cholera or Labor) up to the date of publication of the particular lettered volume (B, 1881; C, 1882, L, 1886), there was need for a current periodical index of the newer medical literature of each successive year The *Index Medicus* was therefore issued in monthly numbers in 1879, while largely through the good offices of Dr Abraham Jacobi, appropriations for printing the first volume of the Index Catalogue were obtained in the same year

The two germinal ideas specified were not essentially new the merit lay, in Captain Cuttle's phrase, "in the application" The oldest known medical publications on Babylonian baked bricks or Egyptian papyri, not to mention the Hippocratic Canon, are really the shreds and remains of virtual medical libraries, works by different hands, associated with the name of an individual teacher, school or period, often overlaid with superadded material The physicians of the Coan and Cnidian schools, as well as Aristotle, Theophrastus and the Alexandrian teachers, undoubtedly had medical libraries The probable or presumable libraries of physicians in the successive centuries *of the Middle Ages may be readily inferred by* statistical computation of the number of citations from old authors in the various medical MSS or incunabula In her classification of the 15,000 medical MSS of the Middle Ages extant in Great Britain, Dorothea Singer has, in fact, given us the probable subject classification of a medieval medical library Many of the earliest printed books are carefully indexed from A to Z, nay, some of these incunabula, such as the Aggregator or Matthaeus Salvaticus, are really alphabetical index catalogues of the drugs and simples of the time The concordances of Hippocrates by Erotian, Foes and Littre, or of Galen by Brassavola and Kuhn, are alphabetical subject indexes to whole vast periods of Greek medicine As far as mere books and pamphlets were concerned, Conrad Gesner Merklin, Haller, Ploucquet, Young, Forbes, Atkinson, Watts, Hain, Choulant and Haeser had all made valuable contributions to medical bibliography Haller published exhaustive bibliographies of botany, anatomy, surgery and internal medicine (1771-1778), Haeser of epidemic diseases (1843), Meissner a model index catalogue of books on pediatrics (1850) During 1830-1845, the Danish surgeon, C P Callisen, had even made a kind of index catalogue of the periodical medical literature of 1750-1845, but by authors only

The new feature of the Index Catalogue and the *Index Medicus* was the exhaustive indexing of the books, pamphlets and contents of periodicals alphabetically by subjects, as well as by authors The main classification in the first and second series of the *Index Medicus* (1879-1899) was a somewhat hierarchical arrangement of subjects in order of relative importance, from Bibliography and Anthropology to Nursing and Veterinary Medicine, under which rubrics the books and periodical titles indexed were alphabetized by authors This necessitated the preparation and publication of somewhat cumbersome and expensive author and subject indexes to each annual volume The classification employed in the latter was that of the Index Catalogue Up to 1900, the attractive feature of the *Index Medicus* to university professors and research workers was its appearance in monthly numbers To men like Welch or Osler or Jacobi or Mitchell these afforded, at stated intervals, a purview of their specialties or of the whole field of medicine, as pleasant and arresting as were the morning *Spectator* or *Tatler* to the eighteenth century Englishman At the same time, the annual author and subject indexes insured the usefulness and value of the *Index Medicus* for the future But it was obvious, from the start, that a journal of this type, financed by private enterprise, with a limited subscription list (never exceeding 500) was foredoomed to financial disaster After contributing materially to the bankruptcy of two successive publishers, the *Index Medicus* was financed by its actual editor, Dr Fletcher, at the phenomenal rate of $25 per annum, up to 1899, when it suddenly collapsed from lack of financial support During 1900-1902, an attempt to carry on, with very restricted material, was made in France, under the title "Bibliographia Medica," edited in three successive volumes by Drs Marcel Baudouin, Charles Potain and Charles Richet (Paris) In 1903 the American *Index Medicus* was revived by the Carnegie Institution of Washington, which published the Second Series (vols I-XVIII, 1903-1920) and the Third Series (vols I-VI, 1921-1926) During the forty-six years of its existence (1879-1926), the *Index Medicus* comprises forty-five, or, including the French publication, forty-eight volumes

In January, 1916, the American Medical Association published the first number of its *Quarterly Cumulative Index to Current Medical Literature* This journal introduced several important improvements in medical indexing. Like the Surgeon General's Catalogue, the new *Quarterly* indexed itself as to both authors and subjects, furthermore, by cumulation of the first three quarterlies in succession, the last quarterly of each year became, in effect, the completely indexed volume Both author and subject titles were given in English, the former of utmost brevity in the earlier volumes, the latter more expansive The arrangement of the material on the page was the best possible for ready reference, and the exploitation of type had been carefully thought out with regard to perspicuity The new *Quarterly* thus became immediately popular among research workers and reference librarians Here, in fact, was a new departure and along lines for which the world had long waited, viz, an automatic system of self-indexing, which dispensed with the cumbersome index to an index, whether of authors or subjects or both The gain in checks on accuracy through the full time service of a large personnel was also of moment. The only drawback to the new publication was the relatively small number of periodicals indexed, 157 in 1916, 326 in 1926. The A M A *Quarterly* made the strongest appeal for current usage The *Index Medicus* had, as covering all the material, the optimum survival value for the future At the same time, it became obvious to all interested that there was an enormous duplication of labor, effort, administration expense, paper, printers' ink and consumption of time in the preparation and publication of two large and costly periodicals covering much the same ground The manifest destiny of the two journals was fusion, but even tentative consideration of this idea was out of the question after the event of April 6, 1917, when both the American Medical Association and the Carnegie Institution of Washington became immersed in wartime activities

ADVANTAGES OF FUSION

The *Index Medicus,* in the wording of Army Regulations, "is not a governmental document" but a periodical supplement to the Index Catalogue, and was prepared for the press from the start as an extra-official activity The entries were copied from the library cards by outside people, the redaction of copy and proofreading of the journal and its indexes were done by the editors as night work outside the Library. In the early days of the eighties and nineties, the monthly numbers seldom averaged more than 50 or 60 pages, the volume (say in 1894) covering about 600 pages or about 12,000 to 15,000 titles. By "sporting oak" and denying himself to visitors, it was possible for Dr. Fletcher to run off a monthly number for the printers in a single evening. With greatly restricted material, the French Index Medicus of 1900-1902 covered 974, 1,128 and 888 pages, respectively. In 1903, the revived *Index Medicus* covered 1,065 pages, exclusive of the author and subject indexes; in 1913, 1,448 pages; in 1914, 1,311 pages. The cost of the journal since 1903 has thus been always considerably in excess of the liberal annual grant made by the Carnegie Institution of Washington. This question of extra expense became of moment in 1913, but the situation was saved by the European war, which greatly cut down the output of worthwhile medical literature in the warring countries, while, during the lean years following the war, the exclusion of the trashier sort of literature which then abounded was a genuine public service. At the same time, this extraordinary proliferation of periodical medical literature, amounting to more than twice the quota of 1894, vastly increased the probabilities of error in copy and proofs, while the reliable personnel employed was decreasing annually through death or other unavoidable contingencies. In 1921, owing to the impossibility of acquiring suitable personnel to carry on the annual Subject Index, the old subject arrangement of 1879-1920 was discarded, and the *Index Medicus* began to index itself quarterly as to subjects (in alphabetical order). The expensive and cumbersome Author Index was perforce retained. The American Medical Association, meanwhile, possessed the advantages of numerous and efficient personnel, rapid and effective press work, and administrative facilities for making the combined Index more widely useful and continually valuable.

THE COMBINED JOURNAL

In addition to indexing itself alphabetically as to authors and subjects, the salient features of the new index are that (1) it combines the best features of the classification of the *Index Medicus* and the *Quarterly Cumulative Index;* (2) the author titles are now given in full in the original languages, with the exception of titles in the Slavic, Scandinavian and Oriental languages, which are presented in English translation; (3) the subject entries are brief English abstracts of the actual content of the articles in question, without references to the titles, unless the latter happen to be accurately descriptive. It is the hope and belief of the editors that, in the long run, the latter device will awaken medical authors and editors to the advantage and necessity of providing all articles in medical periodicals with accurate descriptive titles, since papers of real import and value are submerged and actually lose themselves under titles which are ambiguous, obscure or misleading. In aid of this matter, the classification-rubrics are chosen with the greatest care, again, with reference to the actual content of the articles, and these arrangements are further helped out by a liberal system of cross references, which was not possible in the *Index Medicus.* The new books of the quarter are presented, for ready reference, both by authors and by subjects and with prices attached, on page 2 of the new Index. There follow an alphabetical list of publishers of the books and periodicals indexed (American and foreign) and an alphabetical list of all the periodicals indexed, with full titles, names and (where possible) addresses of publishers. The number of current periodicals now coming into the Surgeon General's Library is about 1,925. They include all important periodicals of anthropology, biology, psychology and even those of chemistry, physics and general science which may publish articles bearing on medicine. Any unusual and worth-while books or articles of this character not apt to be featured through regular medical channels will be included if sent to the Chicago editor (American Medical Association).

MODULUS OF CLASSIFICATION

Beginning with 1879, the nomenclature and classification of diseases employed in the Index Medicus was that of the Royal College of Surgeons, derived, in turn, from the classification proposed by William Farr[1] in 1855. Naturally subject to many changes and additions incident to advances in modern medicine, this arrangement has stood the test of time. Its immense superiority over the older "botanical" arrangements, listed by Wunderlich in the appendixes to his History of Medicine, will become at once apparent to any one familiar with the classification of diseases (say) in the tenth edition of Osler's Practice, which really derives from Farr. In these days of interrelationship of all the applied sciences, in which even anthropology is in process of transformation through advances made in medicine, the proper classification of many complex titles of newer type becomes a matter of extreme difficulty or even delicacy. As only one entry of such titles could usually be made in the Index Catalogue or the *Index Medicus,* it became necessary in each case to find the center of gravity of the title, and this modulus of classification, like other moduli, was quantitative, i. e., had to turn on actual or apparent weight (some preponderant feature) in the scale of relative importance. Thus, articles on the oculocardiac reflex or the effort syndrome (D. A. H.) or "Latent Cerebral Tumor in a Case of Epilepsy Treated by Luminal," found their places automatically under Reflex *(Oculocardiac),* Heart *(Neuroses)* or Epilepsy *(Pathology).*

In the *Index Medicus,* because of the high cost of printing, no cross references to the collateral subjects could be made. In the new *Quarterly Cumulative Index,* however, titles of this type, if sufficiently important, are actually duplicated or triplicated under the collateral rubrics, which makes fuller bibliographies under important headings. When not employed as title-rubrics in the new journal, the Index Catalogue rubrics of the Washington classification are protected by ample cross-references. For classifiers of medical literature, perhaps the most bothersome, boresome and baffling titles are those in which two or more seeming disparates, (such as cancer and tuberculosis) are linked together. The general formula of this abundant class ("something-or-other and something else") is as laughable in its stereotypy as the pattern which was put to such liberal usage in novels of the Damnation-of-Theron-Ware type. In the *Quarterly Cumulative Index,* which employs not one but several moduli of classification, the difficulty attaching to these double-barreled titles is obviated by printing them under both disparates or otherwise covering one disparate by a cross-reference. Thus, in the January-March number of the new journal, the article by Adamantiadis will be found under "Trachoma" and "Keratitis," that by Agnoli under "Diabetes, Insulin in," and "Diuresis," with reference to the former from "Insulin," that by Albrecht (O.) and Ranzi under "Achondroplasia" and "Spinal Cord Compression."

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[1] Farr, William: Compt. rend. Cong. internat. de statist., 1855, Paris, 1856, pp. 147-168.

HOW TO USE THE NEW INDEX

For research workers, the classification of the *Index Medicus* of 1879-1926 is identical with that of the Index Catalogue. In other words, references to the total medical literature of the years 1879-1920 will be found in the annual subject index of the *Index Medicus* for these years, and in the self-classifying arrangement of the four quarterly numbers for the period 1921-1926. The same thing applies to the *Quarterly Cumulative Index* of the decade 1916-1926, for the limited number of periodicals covered during these years. Beginning 1927, the *Quarterly Cumulative Index Medicus* will cover all the medical and scientific periodicals on hand in the Surgeon General's Library, numbering 1,925. Mercifully for the medical profession, not all these 1,925 periodicals are indexed or deserve to be indexed. An astounding percentage of recent medical literature is piffle. But any worthwhile scientific periodical of today, even of subjects like anthropology, geography, philology or mathematics, may contain an occasional medical article of value, and this kind of indexing will be extended shortly to the scientific and secular periodicals in the Smithsonian Library and the Library of Congress. Foreign book titles are catalogued for the new Index directly from the descriptive trade lists.

How to use all this material? Suppose your subject is the pituitary gland. Look for the literature in its alphabetical place, then follow up, as in the Index Catalogue, with such cross-references as are germane or essential; e. g., Acromegaly, Endocrine Glands, Hypothalamus, Infantilism, Obesity. If it is Hydrogen Ion Concentration, then follow up with Acid-Base Equilibrium, Acidosis, Alkalosis, Blood, Cerebrospinal Fluid, Urine and so on. To get the maximum usage out of the Quarterly Index, familiarize yourself with the essential features of its classification beforehand and follow up all the cross references. Foreign readers who cannot cope with the English titles under the subject rubrics will find the full title in the original language under the author entries. On account of the large amount of 1926 literature on hand during January-April, 1927, the quarterly will not attain its full stride into the 1927 literature until the first cumulative volume is published in July, 1927. This overlapping of material at the beginning of each year is unavoidable, by reason of the large amount of foreign literature which does not reach American libraries until comparatively late in the year. In looking, therefore, for references allocated to a certain year (say 1927), consult the volumes for the given year (1927) and the succeeding year (1928). Successful research depends on the worker as well as on the index. In the words of the late President Woodward of the Carnegie Institution: "The scientific specialist who does not know more of his subject than a bibliographer can teach him is not worth his salt."

ENVOY

The curse of recent medicine is the gigantic, senseless proliferation and prolixity of its periodical literature. It has been the despair of librarians, the enslaver of indexers, the nightmare of classifiers, the bugbear of editors, and, even in Dr. Fletcher's time, was the occasion of his celebrated witticism: "The whole world is in a conspiracy against medical bibliographers." It is a consequence of the self-determination mania which "infects the world" and the end is not yet, for there are as many "new" sciences as there are up-and-coming nations. Some day there may be minor Nobel prizes or *prix Monthyon* for those who decline to write unless they have something really new to say and who can state their intention in titles of telegraphic brevity.

In 1926, as stated, it was decided by the authorities of the three organizations concerned that the *Index Medicus* and the *Quarterly Cumulative Index* were

> This day to be conjoined
> In the estate of honorable marriage.

The natural consequence of lawful matrimony made its appearance within the statutory time, and it is no exaggeration to say that the young hopeful, in the words of our leading humorist, was ushered into the world "to the tune of sweet, soft music. There was no harsh bawling from below. There was dulcet twittering from above." Mayhap there was even "rejoicing in heaven," for, with the retirement of the parents, there was to be one medical journal the less in the world. The *Quarterly Cumulative Index Medicus* represents, as stated, the culmination of an effort, long since contemplated, to save the duplication of expense, labor and time consumed in the production of two large and costly periodicals covering much the same material. As combining the best resources available and as employing the most advanced and labor-saving methods of medical indexing, the new Index deserves, therefore, the hearty and unqualified support of the entire medical profession all over the world. May we auspicate its future in the ancient invocation, *quod felix, bonum faustumque sit.*

Army Medical Library.

New and Nonofficial Remedies

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application. W. A. Puckner, Secretary.

CROTALUS ANTITOXIN.—An antitoxic serum prepared by immunizing animals against the venom of snakes of the crotalus family.

Actions and Uses.—Evidence has accumulated to show that the venom of certain snakes may be neutralized by the employment of a serum obtained from animals that have been injected with venom from a snake of the same family. Crotalus antitoxin is used to neutralize the venom injected by the bite inflicted by members of the crotalus family.

Dosage.—The serum is administered intramuscularly; but in cases seen late or in the presence of severe symptoms it may be administered intravenously.

H. K. Mulford Company, Philadelphia.

Antivenin (Nearctic Crotalidae).—North American Anti-Snake-Bite Serum.—An antitoxic serum prepared by injecting horses with venoms from serpents of the North American species of the family *Crotalidae* (Rattle Snake, 75 per cent; Copperhead, 12½ per cent; and Water Moccasin, 12½ per cent). *It is claimed to have neutralizing* effect against the venom of the species represented. The venom is extracted from the snakes and promptly desiccated. The mixture of the venoms is injected subcutaneously into horses in fractional doses until immunity is established. The animal is bled, and the plasma is concentrated by a salting out process. The potency of the product is determined by tests on pigeons, the maximum amount of venom neutralized by 1 cc. of the serum being taken as the titer of the product.

Marketed in syringes containing 10 cc. (a single dose).

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JULY 2, 1927

ACTION OF THE PARATHYROID HORMONE

Current writers reflect the conviction that the parathyroid glands produce a hormone that is indispensable to the organism. Its function is sometimes described as that of "mobilizing" the calcium of the body, a statement scarcely more illuminating than the outworn expression "diathesis" as applied to obscure conditions of disease. Probably a more specific description would at present allocate to the parathyroid hormone the regulation of calcium metabolism through the control, in some way, of the concentration of calcium in the circulating blood. The mode in which this regulatory influence becomes effective has been debated, the available evidences being inconclusive at present. The possibilities have been briefly summarized by Stewart and Percival,[1] who state that "clearly the parathyroids may affect the absorption or excretion of calcium, or may exert some controlling action on the equilibria between the different forms of combination in which calcium exists in the blood and between the concentrations in the blood and in the tissues."

The intake factor can be easily disposed of: In view of the ease with which the low serum calcium of tetania parathyreopriva can be raised by administration of calcium salts, it appears unlikely that the parathyroids act by controlling calcium absorption. Furthermore, in the latest experiments at the University of Edinburgh[1] it has been noted that administration of parathyroid hormone produces a rise in the content of calcium in the blood serum even after exclusion of external sources of the element through evisceration. In other words, since the hormone can exert its full action on the serum calcium even after complete removal of the alimentary canal, it is concluded that the action does not consist in controlling the rate of calcium absorption. Again, after the administration of parathyroid hormone, and while the serum calcium is high, there is no diminution in the excretion of calcium. The parathyroids, therefore, do not act by controlling the rate of excretion.

By a series of successive exclusions of important organs, Stewart and Percival have found that the liver, spleen, pancreas, pituitary, thyroid and central nervous system do not appear to have any special function in connection with the effect of parathyroid on the blood calcium. As increase in the serum calcium takes place under the influence of parathyroid hormone without any diminution in the excretion and without the possibility of any absorption from the alimentary canal, the seat of action must be shifted elsewhere. As the Scotch investigators conclude, the calcium drawn into the blood when parathyroid is administered must come from the soft tissues, from the bones or from both. They incline to the belief that the parathyroid hormone controls the distribution of calcium between the blood and the tissues by regulating the proportion of the total serum calcium that is readily diffusible. Such stress on the physicochemical condition of the elements in relation to their availability and "mobility" in the organism represents a decidedly modern tendency.

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[1] Stewart, C. P., and Percival, G. H.: Studies on Calcium Metabolism: I. The Action of the Parathyroid Hormone on the Calcium Content of the Serum and on the Absorption and Excretion of Calcium, Biochem. J. **21**: 301, 1927.

ACROMEGALY AND METABOLISM

The dominant rôle of the thyroid in the regulation of the basal metabolism, that is, the chemical changes or tissue combustions in the body that are independent of such influences as work and food, has become well established in recent years. Elaborate observations reported on several thousand persons with different diseases by Boothby and Sandiford[1] of the Mayo Foundation show that except in thyroid disorders and in leukemia there is little variation from normal of the basal metabolic level. A similar outcome is found in comparable studies at the Massachusetts General Hospital. For this reason the exact measurement of the basal metabolism has become significant in the diagnosis and management of thyroid disorder.

There have been suggestions that the suprarenals also have a calorigenic influence in the body through the liberation of epinephrine. Both epinephrine and thyroxin accelerate the heat production in the body. Precise explanation of the nature of the effect remains to be developed. The statistics for cases of Addison's disease, in which the suprarenals are defective, are too variable to afford a final answer regarding the actual rôle of the glands in normal heat production. With respect to a metabolic rôle of the pituitary in the energy exchange leading to heat production, the clinical evidence likewise has been confusing and conflicting. More convincing has been the experimental evidence secured from hypophysectomized animals which showed a marked lowering of basal metabolism in the state of hypopituitarism.[2] The possibility remains that any hormonal effects of the pituitary on heat production may be exercised indirectly through the thyroid.

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[1] Boothby, W. M., and Sandiford, Irene: Basal Metabolism, Physiol. Rev. **4**: 69 (Jan.) 1924.

[2] Benedict, F. G., and Homans, J.: The Metabolism of the Hypophysectomized Dog, J. M. Research **25**: 409, 1912.

An unusually significant contribution in this field has come from the Surgical Service of the Peter Bent Brigham Hospital in Boston. Cushing and Davidoff[3] have formulated the conclusion that acromegaly is a disease which bears the same relation to pituitary insufficiency (hypopituitarism) that exophthalmic goiter bears to myxedema (hypothyroidism). It is, in other words, an expression of hyperpituitarism just as exophthalmic goiter is of hyperthyroidism. Acromegaly is often accompanied by an elevated basal metabolic rate and the reverse condition of hypopituitarism by a subnormal rate. Acromegaly, furthermore, may be accompanied by a palpably enlarged thyroid and by symptoms suggesting thyreotoxicosis to which the increased basal metabolic rate has generally been ascribed. The Boston surgeons further conclude that the chromophilic cells of the anterior lobe of the pituitary body secrete a substance which not only contains the hormone of growth but which is capable of raising the basal metabolic rate. Whether the hypophysial principle under these circumstances acts as a stimulus to metabolism directly on the tissues or only through the intermediation of the thyroid cannot as yet be positively stated, they add, although there are reasons to believe that it may act independently. At any rate, the pituitary can no longer be entirely neglected in relation to metabolic upsets in the organism.

LAVOISIER AND THE SCIENCE OF METABOLISM

The present year represents the sesquicentennial of the real beginning of the science of metabolism. In 1777 the French chemist Lavoisier—on whom later the ax of the guillotine fell during the Reign of Terror—described the exchange of gases in respiration. This was the brilliant investigator who demonstrated that respiration in the body and combustion outside it are essentially analogous processes in representing an oxidative change with water and carbon dioxide as by-products. In a brief memoir published in 1777 he enunciated the principles that during respiration it was only "air eminently respirable" (oxygen) which disappeared from the atmosphere when an animal was put into a confined space, and that this air was supplanted by expired "aeriform calcic acid" (carbon dioxide); that when metals were calcined in air, oxygen was absorbed until its supply was exhausted; that after an animal had perished in a confined space and the carbon dioxide in the atmosphere was absorbed by alkali the "foul air" remaining was the same kind of air as that found after metals had been calcined in air in an enclosed space. All the former qualities of this air could be restored by adding to it "air eminently respirable."[4]

From these pioneer experiments it was thus seen at once that respiration is oxidation; that air which has been respired resembles air in which a metal has been calcined, so far that it has lost a certain quantity of its oxygen. But Lavoisier went further than this, Sir Michael Foster[5] adds; he saw that there is an essential difference between air in which a metal has been calcined and air which has been breathed. The latter contains what the former does not, Black's fixed air, for it precipitates lime water. Lavoisier, unlike Priestly, with no veil before his eyes, did not see reason to doubt that this fixed air came from the lungs; and he recognized accordingly that in respiration there are two factors, the disappearance of oxygen and the appearance of fixed air.

It has lately been asserted[6] that although the details of the forms of respiration apparatus used by Lavoisier and his collaborators Laplace and Sequin are unknown, it seems probable, as pointed out by Tigerstedt, that they made use of the two principles which have formed the basis on which have been developed all subsequent types of apparatus for the determination of the respiratory exchange. A busy world in which the science of nutrition has come to play a significant part toward the promotion of human welfare may well pause to pay a tribute of respect to the initiating spirit in its development. Lavoisier's untimely death is one of the unnecessary tragedies of history. Through his cruel execution, as Foster has masterfully expressed it, there passed away from this world, in his fifty-first year, this master mind of science, who had done so much to draw aside from truth the veil of man's ignorance and wrong thought, and there passed away too the hope of his drawing aside yet other folds of that veil, folds of which perhaps wrap us round even today.

THE PROTOPLASMIC REACTION OF LIVING CELLS

The student of physiologic functions can scarcely fail to be impressed by the nicety with which certain chemical reactions in the organism are conducted. Perhaps the most conspicuous instance of this is represented by the neutrality regulation whereby the blood maintains its remarkable fixity of reaction. According to Myers and Booher,[7] for example, the normal range of p_H for the blood probably lies between 7.35 and 7.43, values lower than 7.32 and higher than 7.47 being definitely abnormal. The maximum tolerated range is said to lie between p_H 7.0 and 7.8. To preserve this type of "normality" a variety of corrective or compensatory devices are at the disposal of the organism.

Resistance to changes in hydrogen ion concentration is brought about by buffer action. A buffer has been compared to "a sponge having the capacity of 'soaking up' hydrogen and hydroxyl ions." The buffers of the blood are salts of weak acids—the bicarbonates, phosphates and alkali salts of the proteins, including both hemoglobin and oxyhemoglobin. In addition to these safeguards there is the capacity of the body to excrete acid quite promptly through the kidneys, the volatile carbon dioxide being eliminated by the lungs. Furthermore, the organism seems to have base in latent forms ready to mobilize for meeting an acid emergency.

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[3] Cushing, Harvey; and Davidoff, L. M.: Studies in Acromegaly: IV. The Basal Metabolism, Arch. Int. Med. 39: 673 (May) 1927.

[4] The quotation is taken from a monograph by Graham Lusk: A History of Metabolism.

[5] Foster, Michael: Lectures on the History of Physiology, Cambridge, 1901.

[6] Boothby, W. M., and Sandiford, Irene: Basal Metabolism, Physiol. Rev. 4: 69 (Jan.) 1924.

[7] Myers, V. C., and Booher, L. E.: Some Variations in the Acid-Base Balance of the Blood in Disease, J. Biol. Chem. 59: 699 (April) 1924.

Whether the tissues themselves, and particularly the living cells, are equally capable of preserving their reaction unchanged within narrow limits has not been clear. It has long been known by students of biochemistry that when cellular tissues are crushed and examined by chemical methods an acid reaction speedily develops and may progress in intensity. Localized acidity of this sort has been regarded as a sign of tissue injury, likewise of circumscribed deficit of oxygen The consequences are sometimes apparent in localized abnormalities, as in the case of so-called Zenker's waxy degeneration of muscles. It can even be produced by excessive stimulation of the contractile tissue, whereby acid is formed faster than it can be removed.[8] A noteworthy contribution to our knowledge of intracellular reaction has been made by Chambers[9] and his co-workers at Cornell University Medical College Through their development of an elegant microsurgical technic it has become possible to inject into single cells indicator dyes that cannot penetrate them from without Chambers has observed that the protoplasm tolerates only a limited amount of the injected fluid If too much is injected the protoplasm undergoes visible disintegration, with the production of an acid which the dye immediately registers. As long as the cell remains alive, the final tint in the protoplasm is always the same

The new determinations of hydrogen ion concentration have already been made on the cells of ciliated epithelium, gastric and intestinal mucosa, liver, pancreas, striated muscle, and unripe ova. The p_H values obtained were the same for every cell: 7.5 ± 0.1 for the nucleus, both normal and injured; 6.9 ± 0.1 for the normal cytoplasm, and 5.3 ± 0.2 for the injured and cytolyzing cytoplasm. It is already apparent that the living protoplasm of widely differing types of cells under normal conditions apparently has a remarkably constant p_H value, which is slightly on the acid side, while the nuclear p_H is distinctly on the alkaline side of neutrality. Injury produces an increased acid reaction in the cytoplasm but does not affect the p_H of the nucleus. This affords a further striking illustration of the relatively unchanging environmental reaction in which the functions of living matter are carried out. It also enables one to appreciate better how and why seemingly insignificant uncompensated changes in the movement of acids and bases may lead to physiologic disaster.

Current Comment

DISGUSTING MEDICAL ADVERTISING

The medical profession is now being circularized with an illustration advertising presumably "Proveinase Midy." The circular shows a disproportionate naked Hercules, whose genitals are at least not inconspicuous, and a depressed naked female, in a somewhat September morn pose, whom the Hercules seems about to energize with "Proveinase." The name Midy has meant little that is inspiring to the American medical profession. Santal-Midy is merely sandal oil capsules that are no better than any others. Their exploitation is largely by way of posters in public toilets. What an insult to the medical profession that any firm should think that the picture referred to would appeal to its members! Such advertising merits only contempt and resentment.

IRRADIATED MILK

The newly discovered power of ultraviolet rays to confer antirachitic properties on various types of food is so astounding that the scientific world has scarcely recovered from the surprise and elation that followed the first announcements. The possibility, reported in a recent issue of The Journal,[1] of making a few milligrams of an isolated organic substance acquire, through exposure to suitable brief irradiation, an antirachitic potency equivalent to that of an entire quart of good cod liver oil fires the imagination and inspires an increased respect for the importance of "little things" in nutrition. Ultraviolet rays are, however, not to be regarded merely as a sort of plaything in the hands of untutored persons; nor should they become a tool for quacks. In a warning[2] against wholesale or hasty irradiation of foods it was pointed out that undue exposure to ultraviolet rays may actually produce deterioration in foods, so that great caution and expertness must be used in securing the desired beneficial results. Such warnings should not be allowed, however, to obscure or minimize the successful endeavors. In 1925, a group of investigators[3] at the University of Wisconsin demonstrated that, by exposure to the radiations of a quartz mercury vapor lamp, the antirachitic properties of cow's milk were increased eight or more times. Under the same conditions a sample of goat's milk increased in activity about twenty-four times. This increase in activity can also be induced rather promptly, *though to a lesser degree*, by direct irradiation of the animal. Supplee and Dow[4] have recently demonstrated a comparable effect on dried milk, to which irradiation imparts measurably greater *antirachitic and calcifying properties; and this is true* not only for winter-produced milk, which is usually comparatively poor in antirachitic potency, but also for milk produced under the better natural conditions that prevail in summer. The potential capacity of milk for calcifying properties is not fully attained under the natural conditions of production. Apparently the utilizable increment of antirachitic potency imparted to winter-produced milk by irradiation is greater than the utilizable increment imparted to the summer product. The results of Supplee and Dow appear thus to confirm the existence of a significant interdependence between antirachitic properties and the degree of ultraviolet radiation to which the product itself, or its synthesizing agent, the body of the cow, has been exposed. These advantages of irradiation can be secured, under proper conditions of treatment involving only a brief exposure to ultraviolet rays, without impairment of the other nutritive properties of the milk.

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[8] Wells H G J Exper. Med **11**: 1, 1909

[9] Chambers, R, Pollack, H, and Hiller, S The Protoplasmic p_H of Living Cells, Proc Soc Exper Biol & Med **24**: 760 (May) 1927. Chambers, R, and Pollack, H J Gen Physiol **10**: 739, 1927.

[1] Ergosterol, a Precursor of the Antirachitic Vitamin, editorial, J A M. A. **88**: 1969 (June 18) 1927.

[2] The Danger of Irradiating Foods, editorial, J. A. M A **88**: 1485 (May 7) 1927.

[3] Steenbock, Harry; Hart, E. B; Hoppert, C A, and Black, A: Fat Soluble Vitamin XXVI The Antirachitic Property of Milk and Its Increase by Direct Irradiation and by Irradiation of the Animal, J Biol Chem **66**: 441 (Dec) 1925

[4] Supplee, G C, and Dow, O D: The Antirachitic and Calcifying Properties of Summer and Winter Produced Dry Milk, Irradiated and Nonirradiated, J. Biol Chem **73**: 617 (June) 1927.

THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE

Nearly a quarter of a century ago, on January 19, 1903, a small group of scientific investigators in New York met at the call of Professor Graham Lusk and the late Dr. S. J. Meltzer to consider the organization of active workers in experimental biology and medicine. This was the meeting that initiated the Society for Experimental Biology and Medicine under the presidency of Dr. Meltzer. The main object of the organization was the cultivation of the experimental method of investigation in the sciences of experimental biology and medicine. Membership in the group was limited to persons who had completed some meritorious independent experimental research in that field of study. The programs, from the start, consisted in brief presentations of the essential features of experimental investigations, and frequently of demonstrations of actual experiments. The membership soon outgrew its confinement to "Greater New York" and spread throughout the country. One reason for the success that has attended the development of this society lies perhaps in the significant circumstance that it has aimed to bring together workers in many fields, such as physiology, biochemistry, biology, bacteriology, pharmacology and experimental medicine, at a time when rapidly developing specialization had already begun to segregate investigators into small groups. The new society thus represented a wholesome reintegrating force and provided a stimulus for the discussion of "borderline" and interrelated problems. It has become an influence tending to overcome the danger of narrowness in the present-day outlook on the natural sciences with which medicine is so closely bound up. Another early object of the society was the development of high standards of presentation and scientific criticism. Incidentally, not a few significant discoveries have been announced for the first time at its meetings. As might be expected, this movement was bound to be followed by similar endeavors elsewhere. Many of them have resulted in the organization of branches of the society. Today ten branches are located all the way from New York to Peking; eight more are at present under contemplation. The contributions, in the form of brief, concise summaries, are embodied in the *Proceedings of the Society for Experimental Biology and Medicine,* which is available through subscription. This journal deserves the active support of members of the medical profession, who are likely to find it stimulating and informative. Published without special endowment and maintained by the contributions of scientific workers, it needs and enlists the help of those who can benefit by its program.[1]

Association News

CONFERENCE ON PUBLIC HEALTH

Held in Chicago, March 24-25, 1927

Dr. Wendell C. Phillips, New York, President of the American Medical Association, in the Chair

March 24—Morning

Preventive Medicine and Health Education

Dr. Wendell C. Phillips, New York: Two basic ideas must necessarily prevail in any properly conducted health conference; i. e., preventive medicine and health education of the public. The *why* of these problems needs neither discussion nor confirmation in this presence. We are not here to discuss the *why*, but it is within our province on this occasion to give wholesome consideration to the HOW of the problems. I modestly venture to suggest two keynote ideas which may well serve to guide our meditations, our deliberations and our discussions. The first is mutual and, hence, *better understanding*. The second is *team work.*

I would stress the important position which the American physician has gained not only as the personal and family councilor but as adviser in health and sanitation affairs. He necessarily is by tradition, education and experience qualified for this service. It seems unwise to inaugurate a health program in any community without first securing not only the support but also the active leadership of the local profession. The lack of such understanding and mutual effort has in numerous instances resulted in harm to the cause. We must admit that the education of the physician up to the present time has stressed disease and its treatment, rather than health and its preservation; nevertheless, the physician remains the only individual in the community with adequate basic knowledge available for service in health matters. We freely admit that changes in the curriculum in undergraduate medical schools are necessary. The student of medicine must be trained to treat the individual from the standpoint of health as well as that of disease. Such changes in medical education, of course, contemplate instruction in personal and community health education. We affirm a deep seated conviction that the family physician should remain the foundation of medical service. Our activities in preventive medicine and health education should be guided by principles and programs which will prevent duplication.

It is my sincere conviction that the medical profession should throw off its mask of reticence and its shrinking attitude toward reasonable publicity concerning health education. The House of Delegates of the American Medical Association is on record as favoring every proper method of public health education, including periodic medical examinations of the supposedly healthy. Our journal, *Hygeia*, published distinctly for the lay public, exemplifies the attitude of organized medicine toward this project. Clip-sheets from every issue of *Hygeia* are furnished to hundreds of newspapers. Furthermore, many of our great newspaper syndicates, great daily newspapers and reputable magazines refuse to publish any material pertaining to health except on reliable medical approval. Indeed, in health matters, many of these publications rely constantly on the advice received from the American Medical Association headquarters. Our future progress is not likely to be lacking in human effort and instrumentalities, but it will depend on the large amounts of money that may become available for its promotion. Millions and then more and more millions are needed. A higher average of overflowing good health means a higher average of happiness, comfort, usefulness and the economic value of the individual.

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[1] Subscription for the Proceedings (domestic, $5; foreign, $5.50 a year) should be addressed to the Editorial Office, College of the City of New York, New York City.

The Relations of the Physician to Public Health

Dr. Hugh S. Cumming, Surgeon General, U. S. Public Health Service, Washington, D. C.

Dr. Harlow Brooks, New York.

Dr. Arthur T. Holbrook, Milwaukee.

These three papers appear in full in this issue of The Journal.

Dr. Frank W. Cregor, Indianapolis: The medical profession is the one body which has dedicated its life to a study of the science and devoted it to the practice of the art of healing. Medical practice presupposes individual service. While this is true, it yet remains that it is the one body qualified for public health work. Its ideals and traditions, its culture and the character of its citizenship compare favorably with that of any branch of society.

The medical profession through its organization is the one thing to which the state should look for aid and guidance in all its health activities and the physician who is employed as a health officer or as a commissioner for the state or officer for the county, city or municipality should receive the endorsement of the medical profession and the state should first demand this endorsement. The activities of its health officers should at all times reflect the composite view of the medical profession.

The health department of the state and the medical profession through its organization should make an earnest mutual effort to come to a common understanding. The medical profession needs this as a means of discharging its public obligation. The health department needs it if it is to keep its professional point of view clear and accomplish its great purpose. An annual conference between the health department and some authorized body representing the medical organization would be helpful. The results of this would be reflected down through their separate organizations to the county units. A health officer should be as anxious for the support of his local medical society as for the approval of the health department. The health department simply represents a means of applying the knowledge of the medical profession for the public good. Perhaps the medical profession, which can speak collectively only through its organization, has been timid and hesitated to thrust its views on the state, feeling that the state should come to it. Possibly the state, because of its limited knowledge of the medical organization, has not thought of approaching it. I encounter physicians who decry any activities on the part of the medical organization which might be construed in any way as political. I have also observed that they are the ones who criticize most and wail loudest about existing conditions. I believe that proper activities along these lines are the very best evidence of good citizenship. To my mind, if the relations of the physicians to public health can be worked out along these lines where the activities of the health department can represent the composite views of the medical profession in matters pertaining to the public health, it will be safe, sane, efficient and satisfactory.

President Phillips: The discussion of these papers should be most interesting, and the opportunity will be given at the opening of the session this afternoon.

March 24—Afternoon

DISCUSSION ON PAPERS OF DRS. CUMMING, BROOKS, HOLBROOK AND CREGOR

Dr. George M. Fisher, President, Medical Society of the State of New York, Utica: We in New York State, like all other states in the Union, have had more or less trouble with our lay organizations. That led me to think that perhaps there was some ground on which the medical profession and the lay organizations could get together. The result was that I talked it over with the State Charities Aid and the Milbank Foundation and they extended to the medical profession a most hearty greeting, and agreed that they would form a committee and meet with a similar committee from the state society. Now the proposed discussion brought before that committee was, first, in all communities there exists a large amount of illness and poor health which does not seek and, therefore, does not receive medical diagnosis and treatment, at least not at a favorable stage. Second, important new discoveries and improvement in preventive medicine should be made available at the earliest practical time to all persons seeking medical aid. Third, sound public policies demand that all persons, irrespective of residence, should have available the essentials of reasonably good medical diagnosis and care when ill. Fourth, the continued economic security and well being of the medical profession is an essential factor in meeting the preceding condition. Fifth, in all health clinics and activities, the service of local physicians should be utilized and remunerated except where special skill or service is required. Sixth, no responsible person seriously proposes or has proposed the introduction of an actual system of state medicine in the state of New York. Seventh, in order to conserve the largest usefulness and economic well being of the medical profession, and at the same time to bring progressive measures for the protection of health to the population generally, and to the interests of the population, to the medical aid, both curative and preventive, it is highly important that definite understanding should be reached between those whose primary interest is the practice of curative medicine, and those whose primary interest is the promotion of preventive health activity. As a tentative base of such an understanding the following are suggested for discussion: the tuberculosis program, which met with a very liberal discussion, and then the mental hygiene program, the prenatal care, child health program, social hygiene program, and lastly communicable diseases. In all these discussions the physician was foremost in place. The work of this committee has so far been so successful that it is my intention to propose to the state medical society that a permanent committee be appointed to be known as the Public Relations Committee, the object of which is to deal with public organizations, lay organizations and societies as well as the health authorities of the state. Furthermore, I propose that in each county society there should be organized also a public health committee whose relations shall be in connection with that of the state society and work along the same line.

Mr. Homer Folks, State Charities Association, New York: No lay organization, so called, concerning itself with health or even with the relief of distress and poverty, which is what they all began with, is composed of laymen alone, to the best of my knowledge. They all have physicians in their membership, on their boards, on their executive committees. We don't particularly object to the term "lay organization" except that we like it borne in mind always that no lay organization, that I know anything about, ever does anything in the scientific line, ever adopts a policy, ever takes any action of any sort or description that borders on a technical character, without the most minute and authoritative direction from its medical people. As to the particular organization to which Dr. Fisher refers, the State Tuberculosis and Health Committee of the State Charities Aid Association, we have concerned ourselves since 1907 with the prevention of tuberculosis in the state of New York, outside New York City. We also have a state mental hygiene committee, active in the state as a whole. We have distinguished psychiatrists and distinguished sanitarians on that committee. We are proud of the fact that though we have published millions and millions of circulars, leaflets and publications dealing in a popular way with scientific facts, we have never been called on to retract or modify during that thirty-year time any statement we have made because of any technical or scientific inaccuracy. I mention that merely to show the standing and ability of the medical men who have guided us, and of the extent to which we have been glad to be guided by them. I became firmly convinced a couple of years ago that most of the difficulties between the medical practitioners and health organizations, public or private, arose because they all approached the subject, as Dr. Brooks unfortunately did, from a rather general point of view A year ago we had the pleasure of meeting informally several times with several members of the state society to see if we didn't agree, as Dr. Fisher mentioned, on the details of the tuberculosis clinics, what patients should come to them, and so on Somewhat to the surprise of some of us, we found we didn't differ at all about the actual, practical, concrete content and the desirable modes of operation of those activities, so that we were delighted to receive Dr Fisher's informal suggestion last fall of such a conference committee meeting now officially and in a representative capacity We have found no real difficulty at all in covering the field, so far as we know it, and in arriving at entirely unanimous recommendations to be made by Dr Fisher's committee to the state society, by our committee to the state-wide health group

Dr John A Kingsbury, Milbank Memorial Fund, New York There are probably just as many varieties of social workers as there are of doctors I think that the President of the American Medical Association and the president of the New York State Medical Society have marked the beginning of a new epoch by arranging for conferences where physicians and public health workers get their feet under the same table, and begin to understand one another I yield to nobody in my admiration of Dr Brooks as a physician, but not as a judge of social workers I want to record a little bit of history I talked about a little Cattaraugus County difficulty with Dr Phillips when I had the pleasure of lunching with him one day in New York I said, "We must find a way to promote better understanding between doctors and public health workers," and it was only a day or two after that he called me on the telephone and said, "Dr Fisher is in my office" Dr Fisher came to the telephone and made a suggestion, which he said he and Dr Phillips had been talking over I transmitted that information to Mr Folks Out of that incident grew the Public Relations Committee of the New York State Medical Society, which has been meeting with a similar committee of the New York State Charities Aid Association selected by Mr Folks I think that ought to be on the record, because it may usher in a new epoch in medical and public health relationships

Twenty years ago I started organizing the voluntary committees on tuberculosis prevention in New York State I went out with my instructions from the chief who just preceded me The first thing at the head of the list of instructions was "Go and see the president of the county medical society, consult with the county medical society" We never failed to do it The first thing we did in Cattaraugus County was to consult with the county medical society There are about sixty-eight members scattered over 1,300 square miles of the county; some bad roads, very bad roads, doctors busy, very busy; and eight or ten is a large attendance at one of those meetings We came out all right with those ten, we got started harmoniously The president of the society came to the general meeting at which the plans were approved Two members of the county medical society were put on the county board of health, and all seemed well, but it wasn't quite well So, about three years later, there was a little blow-up at a meeting at which about twenty one members came together Later when they assembled a still larger meeting, after getting together as Dr Fisher has suggested, after smaller group meetings, promoting an understanding of what was doing, the county medical society at this larger meeting passed a resolution endorsing the county health unit, and the general program that was being carried on with the aid of the Milbank Foundation but carried on by the local agencies, under the supervision of the State Charities Aid Association We have gotten together and apparently all is well, but all will be well there as time goes on only if we succeed in understanding one another

Dr Henry F Vaughan, American Public Health Association, Detroit Mr Kingsbury spoke of the situation in Cattaraugus County where there were brought together representatives of the medical society Of some sixty eight members of the society only eight came, and those eight who came fully comprehended and understood the situation and were willing to cooperate The sixty who didn't come, didn t understand, were ignorant of the situation, and instead of cooperating they were antagonistic until they could be reached The same thing is true in every part of our country. When we meet with representatives of the medical society we soon have their confidence They see that we are able to get around the same table and put our feet under the same board and understand one another, but it is very hard to reach those sixty other physicians who do not come to such meetings It seems to me that the American Medical Association has a wonderful opportunity to reach those sixty men, and that if you are going to do anything constructive there ought to be some central bureau or authority in the American Medical Association which can interest those sixty men in local public health work I feel it in my own community, and I am sure every other health worker does We can reach them, but it requires continual prodding and propaganda work on our part It needlessly takes a lot of our energy, and it is a waste of time, because we get such trifling results If the American Medical Association could have through its Council on Health and Public Instruction or through some other agency a well defined method of reaching these other physicians in exactly the same way they are reaching the public through *Hygeia* and through propaganda work, we could get the sixty men back of the public health problem It seems to me that it would be a great mistake for this gathering to adjourn without working out at least some tentative program whereby the representatives of the various lay, nonofficial and official agencies and, above all, the private practitioner in medicine can have a common meeting ground, and that common meeting ground should start at the very top The relationship between the American Medical Association, the American Public Health Association and the official social agencies at the present time is virtually nil There should be a common understanding from the top right down to the bottom, with some line of organization, so that we feel the impulse and the effect of such a cooperative movement way down to the smallest unit

Dr C A Harper, State Health Officer, Madison Wis As was just stated, public health officials fully realize that the cooperation of the medical profession in the main is essential to successful aggressive public health work I desire to emphasize the necessity of the medical schools adding a stronger and more basic branch of the essentials of public health as a part of their regular curriculum It has been shown in this discussion that the divergencies between public health officials, small as they are, and the medical profession is more through misunderstanding than it is in actual opposition

Dr W S Leathers, Professor of Preventive Medicine, Vanderbilt University School of Medicine, Nashville, Tenn I did not get just the reaction from the paper of Dr Brooks that has been expressed by the speakers who have discussed it It seemed to me that the question was discussed by him from a broad point of view as related to the practitioner of medicine and I do not think that he meant to imply that there were not capable social workers just as there would be efficient workers in every legitimate field of endeavor It appears to me that this paper, in the main, was stimulating and constructive In the state in which I served as state health officer for fourteen years, I made it a principle of administrative procedure not to undertake health work faster than I could obtain the intelligent cooperation of the medical profession It seems to me that this is fundamental When I left the state (if you will pardon me for the personal reference), I believe as many as 95 per cent of the physicians were supporting the state health work I have found practitioners of medicine my best friends An effort was always made to confer with them concerning community health problems and secure their support When differences occur between the profession and public health workers it is usually the result of misunderstanding This conference is a forward movement for bringing about better conditions between official and nonofficial agencies in relation to the practitioner of medicine

Dr S J Crumbine, American Child Health Association, New York Dr Holbrook of Milwaukee expressed my sentiments I am in accord with one single exception, that is the recommendation that only local men should be chosen for health officers. Frequently that is impossible, it is extremely difficult many times, and I think often insures the failure of a program of public health.

Mr. James L. Fieser, American National Red Cross, Washington, D. C.: The experience of the organization which I represent has been an increasingly wholesome one in so far as its relationship to the medical profession is concerned. In the first place, the Red Cross through its 3,500 or so local branches has doubtless enlisted the service of many thousand physicians, just as in its work in special health fields, such as first aid, many thousand physicians have been constantly engaged in instructional work of a public health sort. Incidentally an examination of our instruction and literature will indicate an urge oft repeated that the local medical societies be taken into account. We have found by experience in time of disaster, for example, that after the first emergency has normally been taken care of by physicians in the community and those who came in, such affiliation is invaluable. In the field of general health activities, such as home hygiene and care of the sick, every effort is made to make clear that the instruction given is merely an aid and not a substitute for the more thoroughgoing work which only a physician can give. In other words, it is designed to give to the physician in the aggregate throughout the United State, an intelligent lay support when he goes into the home of that one individual representing 500,000 women who have satisfactorily completed such a course today. Within ten years, through local and Red Cross societies, one out of every three counties in the United States has inaugurated a public health nursing program, which again ties in definitely with an instruction that the nurse in nowise is to be a practicing person but in every instance is to follow the instructions of a physician. Of course, in the case of the Red Cross, we have almost a threefold entity: first, a governmental one through which we have the counsel constantly of the surgeon generals, two of whom are represented on our central committee of eighteen. In the second place we are a popular agency, and are therefore constantly urged to do things that we cannot do in the health field and do not want to do. In the third place, we have a professional relationship both to the social work group and to the medical professional group in which connection we constantly strive to have the counsel of the best available people in both fields.

Dr. B. Franklin Royer, Medical Director, National Commission for Prevention of Blindness, New York: I think a little of the trouble existing at times between the medical profession and some of the lay organizations develops because physicians have been so busy preparing themselves for the job of curative medicine that they have failed to keep up with the trend of modern prevention. As medical men they have undertaken to teach the public with altogether too little health knowledge. I think that has resulted in misunderstanding. I am sure that meetings such as this will enable both sides to get a better point of view, and if it does nothing more than to make the medical profession see its own weaknesses and its own backwardness at times in engaging in the real field of health promotion, it will have done a great deal.

Dr. Clifford G. Grulee, American Child Health Association, Chicago: It seems to me that most of our difficulties have been difficulties of misunderstanding, but there have been some difficulties that have been real. One of the difficulties that has been real has been the failure to distinguish between curative medicine and preventive medicine. The people at large, the laity, feel that they should have public health work free. The physician feels that they should not have curative work free, and unless we can distinguish between the two there will always be that disagreement between the medical profession and the laity. That is one of the practical questions that we must settle.

Dr. Herman N. Bundesen, Health Commissioner, Chicago: It has been well said that a wood shaving has two sides; it couldn't be a shaving if it did not have two sides. I think that the way to look at many of the problems of the health official. There isn't any doubt that the solution of a problem depends largely on the personal equation of the men who happen to be in charge of organizations that may be having misunderstandings with one another. In Chicago, when I became health commissioner, Dr. Ferguson, president of the Chicago Medical Society, came into the office and pointed out to me what appeared to be several justifiable complaints. They were corrected, and we have had fine cooperation with the Chicago Medical Society and magnificent cooperation with the American Medical Association. We feel that in the Chicago Department of Health problems can be solved if both parties will take a reasonable attitude and agree that there are two sides to every story.

Dr. W. F. King, Secretary, Indiana State Board of Health, Indianapolis: Indiana has as much cooperation between the organized medical profession and the official health departments as can be found anywhere. One of our great difficulties, however, is to be found in the fact that many physicians are not members of the county and state societies. There are 4,100 physicians in Indiana, of whom less than 2,800 are members of the state medical association. We find it difficult to get the cooperation of the physicians of a community, either through the medical society or outside the medical society because of this situation. If we can have an inclusive medical profession with all physicians as members of the organization, it should be possible for the medical profession to extend its circle of influence to take in the public health officer or public health administrator and those who are responsible for the direction of nonofficial health organizations, and that all can then work together with full understanding and confidence. I hope that the fine spirit of this meeting can be carried down to the local medical society and through the society to the local community.

Dr. D. B. Armstrong, Metropolitan Life Insurance Company, New York: I hope that before we get through we may have some opportunity to take up the relation of the individual physician to public health, and especially personal hygiene. This involves, of course, the transmission of information to people about how to live, and that is partly a job of the practicing physician. It should enable the average citizen to know the difference between the qualified practitioner of medicine and the chiropractor. It should help the average newspaper reader to know the difference between an editorial or article on smallpox sent out by Dr. Greenburg's organization, that is the American Association for Medical Progress, and an article or editorial on the same subject in McFadden's *Daily Graphic*. Then, of course, there is the question of getting the physician willing and able to meet the demands that a better informed public is going to make on him. There are still a good many physicians not yet willing and able to practice preventive medicine. For instance, we have hundreds of letters every month in the office with which I am associated asking about health examinations. The writers state that they have been advised to go to the doctor for a health examination. They complain that the doctor examined only part of them, or didn't do the job thoroughly, or gave them little really helpful advice about the hygiene of daily living. To a greater and greater extent the private citizen is being taught to seek health advice from the doctor. What agencies should guide him and by what means? He is trying to find the doctor in this field. Will he find him wanting?

Dr. William Allen Pusey, Chicago: Nobody can enjoy his prejudice after he gets on intimate terms with a man against whom it is directed. There is undoubtedly some room for better understanding between our profession and what we, with no intention of superiority, call the lay groups. I have had occasion to deal very frequently with lay organizations that have to do with health and I am ready to testify that, with rare exceptions, these experiences have been exceedingly pleasant. The workers are enlightened, intelligent. They are quite as well informed on their side of these problems as we are on ours, and they are very helpful. But it must be faced that sometimes this story is not so pleasant. I recall that at the present time Chicago medicine is suffering a grievous wrong in what, in my opinion, is an unwise adventure of a lay group in medical matters. This is partly due to the medical profession because we did not get before them, in the way that we should, all of the factors of the situation. These occasions do occur and it is highly desirable that the profession and organizations engaged in medical and physical welfare work should try to see things from each other's standpoints and guide their courses in the light of expert information on all sides.

There was one expression that was occasionally used this morning that I often hear and which I think carries a bad impression to the man who doesn't understand; that, is the reference to the "rights" of the medical profession. Of course the medical profession has no rights at all in the sick; sick people are not made for our benefit. We are an expensive necessity, maintained for them. But in one sense medical men are entitled to certain privileges that are important to cultivate and they rest on the fact that, competent or incompetent, the medical profession represents all that society has for the treatment of the sick and injured. If a foundation or health organization goes into a community to help in health *work or in the treatment of the sick, as it sometimes* does, and pursues a course that is fundamentally opposed to the welfare of the medical profession, it is a socially bad act, an act that is bad not primarily because it is bad for the profession but because, being bad for the profession, it is bad for the community. For it is to the interest of the community to have the best physicians it can get, and if in a proper sense the physicians' interests are not protected the community cannot expect to have the best physicians that are available. It is necessary that medical men live; they will likely be on the ground after the organization goes away, and the organization is dependent on them for its detail work. With all our altruism most of us have families and we have to eat, and until we become endowed or taken over by the state—both of which contingencies, God forbid—we shall have to make a living.

Dr. Rachelle S. Yarros, Associate Professor of Social Hygiene, University of Illinois College of Medicine, Chicago: I have lived in Chicago and practiced medicine for thirty years. I have worked with almost every agency that has begun to do health work, and I think the people of Chicago, the enlightened people of Chicago, are always ready to be guided by the physicians. But, as Dr. William Allen Pusey said, some of the leading men and women in the profession have been too busy doing good medicine. Consequently, they have not taught the lay public as much as they should have. The public is ready for education in social hygiene and venereal disease. Right in the city of Chicago there is less cooperation with the social hygiene work of the lay group than in any other direction, and we appeal to the physicians not to isolate themselves into a separate clique. The public needs them, and they need the public.

Prof. Ira V. Hiscock, John Hancock Mutual Life Insurance Company, New Haven, Conn.: There is just one aspect of this problem which may seem somewhat afield from the discussions so far, although it has been mentioned by Dr. Harper, and also by the President in his talk this morning. The point I should like to make relates to medical education, because the relation of the physician to this public health movement in the future will undoubtedly be influenced a great deal by the type of education that is given in the medical schools. One thing which has impressed me very much is the possibility, referred to in the publications of the American Medical Association and in other places, of starting the public health education of the men who are going to be the practicing physicians in the very early years of their course in the medical school. If these men are given a glimpse of what preventive medicine means in the early years of their course, in pediatrics, in pathology and in medicine, when they come to the courses in the principles of public health they are going to have an entirely different attitude than they would have otherwise. Furthermore, they are going to have a different attitude toward the problem as a whole out in the community. We have found that it means a great deal to the students in the principles of public health course in the medical school, if they do get an insight into the whole problem through the other courses which are not exactly labeled public health.

Mr. Homer Folks, State Charities Association, New York: I want to get on the record another important phase of cooperation between the state medical society and the lay health organization of New York State. Six years ago a chiropractic bill passed the legislature and got up to the governor, and there was an imminent probability it would become a law. At the suggestion of the state medical society and the state health department, the lay organization organized the lay forces of the state to defeat the bill, and the counties of the state were practically all represented in a hearing before the governor and were working actively against the bill. Through this union of effort the bill was vetoed. Since then, for six years, they have been held absolutely a unit in opposition to chiropractic and all similar legislation. Last year an important medical practice act was introduced, framed by the state medical society. They said they would like us to help; we were delighted to do it. We organized every county in the state. There was a big educational movement among the lay people as to what a medical practice act should be, and for the first time in more than a decade a really good medical practice act became a law in New York State.

Dr. Harlow Brooks, New York: I want to point out what seems to be the great lesson of the talk this afternoon. Where people get together to talk these things over face to face, as Commissioner Kingsbury and members of our medical board did a few years ago, a mutual respect and a cooperative understanding is sure to come forth. I think it is well to know where we stand and to know the reactions of the profession to lay activities in public health matters. I think I have tried to portray this in a rather definite and thoroughly frank way with some result, apparently. The thing to do is to get together.

(To be continued)

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Institute on Public Health.—The first annual institute on public health, under the auspices of the Los Angeles County Public Health Association and the advisory board of the county health department, opened, June 20, at Los Angeles, and will end, July 9. It was made possible through the financial assistance of four members of the staff of the county health department and the county public health association with the hope that the standard of local health activities will be raised. The principal speaker was Charles-Edward A. Winslow, Dr.P.H., Anna M. R. Lauder professor of public health, Yale University School of Medicine, New Haven. Instruction was arranged under two heads: (1) a technical course given during the morning hours for physicians and other health workers, and (2) a popular course of six lectures in the evening given in the auditorium at Patriotic Hall, 1816 South Figueroa Street.

CONNECTICUT

State Medical Election.—At the annual meeting of the Connecticut State Medical Society, Hartford, May 25-26, Dr. Daniel Sullivan, New London, was elected president; Drs. Frank W. Stevens, Bridgeport, and Warren Avery Tanner, Danielson, vice presidents; Dr. Charles W. Comfort, Jr., New Haven, secretary, and Dr. Phineas H. Ingalls, Hartford, treasurer. The next meeting will be held, May 23-24, 1923, at Bridgeport.

Appointments at Yale.—The appointment of Dr. Grover F. Powers as professor of pediatrics at Yale University School of Medicine was announced, June 16. Dr. Powers is a graduate of Purdue University and Johns Hopkins University School of Medicine, where he was an instructor and associate in clinical pediatrics, and physician-in-charge of the pediatrics dispensary from 1916 to 1921. He then joined the faculty of Yale University School of Medicine as assistant professor o pediatrics. The following instructors have been appointed a Yale: Dr. Thomas Francis, Jr., medicine; Dr. Francis B Carter, obstetrics and gynecology; Dr. Sigurd C. Sandzen surgery, and Dr. Robert Salinger, pediatrics.

Diploma Mill Echoes—Koutsompous and Professor Scotellaro.—Testimony at rehearings in Hartford of the eleven eclectic physicians whose licenses had been revoked, noted in The Journal, June 25, indicated that all the honorary degrees issued by the Kansas City College of Physicians and Surgeons had been paid for except one issued to William Koutsompous of St. Louis, whose Connecticut license was revoked in 1924 on request of the Connecticut Eclectic Medical Examining Board. Ralph L. White, New Canaan, a member of the former Connecticut Eclectic Examining Board, is said to have testified that he was given a diploma from this school but that he destroyed it because he did nothing for the school either in service or money. James E. Hair, secretary of the eclectic examining board, testified that he also received a diploma during a casual Sunday stopover in Kansas City. Frederick A. Waite, Ph.D., Cleveland, Ohio, formerly special investigator for the Missouri state board, testified that Waldo Briggs, dean, St. Louis College of Physicians and Surgeons, appointed Nicholas Scotellaro a professor in the physiology department, and considered him qualified to teach, although it appears that Scotellaro failed in his premedical examinations at Fordham University, and also in the first year examinations at the College of Physicians and Surgeons of Baltimore, passing these on reexamination and passing the second year examination on a retrial; he failed twice in the third year examinations and was dismissed, going then to the St. Louis College of Physicians and Surgeons where Dean Briggs examined and passed him with all conditions removed; he graduated there in June. Robert Adcox, who was sentenced to prison as a result of his connections with diploma mills but never served, and Harry T. Brundidge, reporter for the St. Louis *Star*, whose investigation for that paper led in large part to the investigations carried on by state authorities in Connecticut and Missouri, were among the other witnesses for the state. Much of their information was published in The Journal at the time of the diploma mill investigation.

GEORGIA

Dr. Hardman Inaugurated as Governor.—Dr. Lamartine G. Hardman of Commerce was inaugurated, June 25, as the fifty-sixth governor of Georgia Dr. Hardman practiced medicine in the state for many years, retiring about 1919 to engage in the business and industrial life of his community and the state. He is the first physician to become governor of Georgia (The Journal, Oct. 23, 1926).

Renovation of Medical Building.—The departments of the University of Georgia Medical Department, Augusta, that were affected by the recent school fire are being renovated; the roof, the only part that burned, is being restored. The damage was estimated at $16,000. Space in the south wing, heretofore unused, is being converted into quarters for the department of experimental surgery with a large operating room, three rooms for research and an office. The space formerly used by the surgical department on the first floor will be taken taken over by the department of public health. The medical department is appealing to the legislature now in session for an increased appropriation of $20,000 a year for maintenance to replace a similar amount that has been received for the last five years from the Carnegie and Rockefeller foundations, which contract has expired. The public spirited citizens of the community and "official Augusta" contributed a similar amount to that given by the foundations, and these funds were used chiefly to inaugurate full-time departments in medicine, surgery and obstetrics.

Students Establish Loan Fund from "Breakage Fees."—The class of 1927 of the Medical Department of the University of Georgia has established a loan fund for needy students by turning back to the school the unused portion of money deposited as "breakage fees." The fund will be added to yearly until fifteen graduating classes have contributed to the fund, when the student council or faculty committee may apply further deposits to the advancement and expansion of the medical department. Former graduates shall be given the privilege of contributing to the fund as well as other persons. Loans shall be limited to needy students recommended by the student council and by a committee of two members from each class and approved by a faculty committee. The attitude, moral character and financial status shall determine the eligibility of students desiring loans. The precedent for establishing this fund was set by Dr. James R. Howell of the class of 1926, who, in conjunction with all the members of the class of 1927, signed a fitting set of resolutions to the students of the medical department of the university.

ILLINOIS

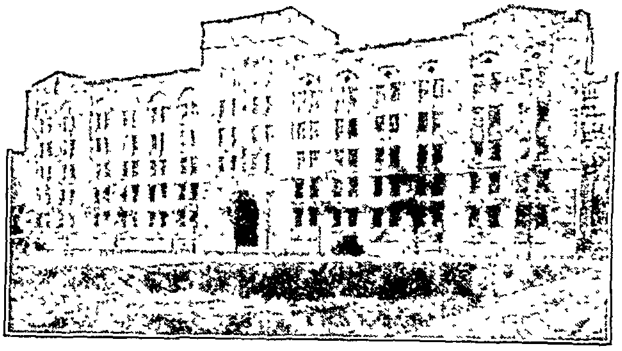
Society News.—Dr. Dana B. Seger, Morrison, was guest of honor at a dinner at the Morrison Country Club, June 16, given by the Whiteside County Medical Society in celebration of his fiftieth year in the practice of medicine. The president, Dr. Charles E. Parker, spoke on "Early History and Practitioners of Whiteside County," among other speakers was Dr. John E. Tuite, Rockford, president-elect of the state medical society.——Dr. Maurice L. Blatt, associate professor of pediatrics, University of Illinois College of Medicine, Chicago, addressed the Rock Island County Medical Society, Moline, June 14, on "Infant Feeding."

Chicago

Chiropractor Breaks Patient's Back.—George E. Ingram, an unlicensed chiropractor, was arraigned in municipal court, June 21, to answer, it is reported, his own charge of breaking the back of a patient under treatment. Ingram is said to have gone to the office of the state board of registration and education and reported that he had injured the patient. He was granted a jury trial, and as he was unable to furnish bond was placed in jail. Ingram came to Chicago recently from Oklahoma.

Society News.—Dr. Charles Davison, emeritus professor of surgery, University of Illinois College of Medicine, Chicago, gave the commencement address at the University of South Dakota, Vermilion, June 6, on "Prevention of Disease."——At the annual election of officers of the Chicago Medical Society, June 13, Dr. Frank R. Morton was elected president-elect and Dr. James H. Hutton, secretary. The president of the society for the ensuing year is Dr. Isaac A. Abt.——A request from the Chicago Field Health Officers' Association to have the affiliation with the Chicago Medical Society changed to the present name of the organization, Chicago District Diagnosticians' Association, was disapproved at the June 14 meeting of the council of the Chicago Medical Society.

Progress in Physiology Department.—Since the establishment of the physiology department of the University of Chicago, 108 students have been granted masters' degree in physiology, in most cases only after the completion of a piece of research constituting actual contribution to knowledge and published in a scientific journal. Fifty-five students have been granted the degree of doctor of philosophy (thirteen under the chairmanship of Professor Loeb, two under the chairmanship of Professor Stewart, and forty under the chairmanship of Professor Carlson); of these fifty-five doctors of philosophy, five are in the practice of medicine, four are professors of medicine; two professors of pharmacology, one a profesor of biology, one a professor of milk production and one an instructor in English; several are professors and instructors in physiology in twenty-eight universities in the United States and Canada; one is in charge of a missionary hospital at Korea, one is in the Peking Union Medical College, China, and four are dead. Eleven of the graduates of this department are at present in the University of Chicago; one in the department of pharmacology, one in the department of surgery, four in the department of medicine and five in the department of physiology. A total of 607 papers and seven books had been published from the department up to June 30, 1926. The department, now established in the new building represented here north of the Albert Billings Memorial Hospital, was open to the public, June 11, at which time scientific demonstrations were given by the staff.

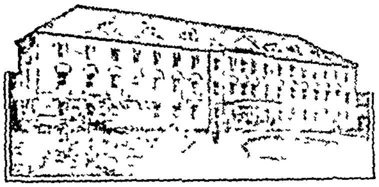


INDIANA

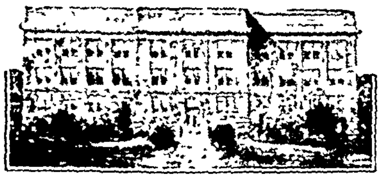
Personal.—Dr. Elmo Ray Royer has been appointed medical director of Milan Springs Hotel, Milan; Dr. Royer was formerly assistant director of the new Highland Sanatorium in Martinsville.

Dr. King Reelected.—At a meeting of the state board of health, June 14, Indianapolis, Dr. William F. King was reelected secretary of the board; Dr. James A. Turner, Ladoga, was elected president of the board at this meeting, and Dr. Amos J. Hostetler, Lagrange, vice president.

New Buildings at State Medical School.—Three new units are under construction or planned for the Indiana University School of Medicine, Indianapolis. The William H. Coleman Hospital for Women will be opened in October for patients from all parts of the state either as charitable, part-pay or pay patients. The hospital, donated by Mr. and Mrs. William H. Coleman in memory of their daughter, will cost $350,000 and accommodate seventy-five patients mostly in private rooms. It is red brick and Bedford stone and almost entirely fire-proof with soundproof walls. A state appropriation of $75,000 a year will be available for maintenance. The medical school unit under construction was started in 1917 but not finished on account of the World War. Funds to complete the structure have been provided by the sale of the old medical school building at Market Street and Senate Avenue to the state for $100,000. The legislature has appropriated $50,000 for equipment. It will conform in style to the present building to which it will be an addition facing Michigan Street. There will be an auditorium seating 500, additional classrooms and laboratories and room to expand the library, for which the last legislature appropriated $20,000 a year for two years for new books. The medical building can accommodate 100 students in each of the three classes, the first year continuing to be taught at Bloomington. The enrolment at the medical school at Indianapolis is about 280 The third building to be erected is a $500,000 nurses' home and training school, a gift of the Ball Brothers of Muncie, to be constructed soon, a little northwest of the Coleman Hospital and southwest of the Riley Hospital. It will be fire-proof, of English Georgian architecture, and connected by tunnel with other medical units, and will accommodate 165 nurses.



William H. Coleman Hospital for Women



New medical school unit

MAINE

State Medical Election.—At the annual meeting of the Maine Medical Association, Portland, June 15, Dr. Herbert F. Twitchell was installed as president; Dr. Frank Y. Gilbert, Portland, was made president-elect. The next meeting will be in Belgrade in June, 1928. A woman's auxiliary was organized during this meeting, and Mrs. Frank Y. Gilbert was elected president.

MASSACHUSETTS

Olives Condemned.—The health department of the city of Boston in its May bulletin notes that large quantities of unwholesome olives have been discovered in the routine examinations of food in Boston. The olives came from Sicily in 300 barrel lots, and on examination were found to be from 15 to 40 per cent wormy; at the time of writing the department had condemned about 1,200 pounds of them.

Personal.—Dr. James S. Stone, Boston, president of the Massachusetts Medical Society, recently addressed the Alabama State Medical Society on "Some Lesions of Bones and Joints in Children."——Dr. Robert C. Stickney tendered his resignation as member of the board of health of Beverley, April 25.——Dr. Charles J. White has resigned as Edward Wigglesworth professor of dermatology at the Medical School of Harvard University, effective September 1, when he will become emeritus professor.

Dr. Wilinsky to Assist in Health Survey of Palestine.—The international commission in charge of a project to survey and study the health of Palestine under the direction of Dr. Milton J. Rosenau of Harvard University Medical School has selected Dr. Charles F. Wilinsky, deputy commissioner of health of Boston, to assist in the survey. Dr. Wilinsky, who has been granted a leave of absence by the city for this purpose, left Boston, May 12, to sail from New York. Since 1916, Dr. Wilinsky has been in charge of the health unit work of Boston, and his appointment is considered by the local health department a recognition of his work on disease prevention.

MINNESOTA

University News.—All students at the University of Minnesota will be given free medical examinations beginning in the fall; at the commencement, June 13, the degree of master of science in surgery was given to Drs. Gilbert C. Anderson, Paul G. Flothow, Norman C. Ochsenhirt and William W. Sager, fellows of the Mayo Foundation. Other fellows receiving advanced degrees were Drs. Herbert V. Dobson and Louis E. Prickman, masters of science in medicine; Dr. Harold D. Caylor, master of science in pathology, and Dr. Dewey R. Heetderks, master of science in otolaryngology. The degree of Ph.D. in surgery was conferred on Dr. Winfred H. Bueermann, now of Portland, Ore., in absentia.

MISSISSIPPI

Ex-Presidents' Club Organized.—During the annual meeting of the Mississippi State Medical Association, the Ex-Presidents' Club was organized with Dr. Peter W. Rowland, chairman, and Dr. Dudley Jones, secretary; eighteen of the twenty-four living ex-presidents of the state society were present. The oldest member is to be chairman of the club automatically, and the active president of the state medical society is to be the annual guest of honor. The object of the club is to promote good fellowship and encourage attendance at the state meeting. There are to be "no dues and no politics."

Society News.—Among others, Dr. Ewing F. Howard addressed the Isaquena-Sharkey-Warren County Medical Society, Vicksburg, June 14, on "Medical Ethics."——At the June 7 meeting of the South Mississippi Medical Society, Hattiesburg, Dr. Wiley D. Forbus, Johns Hopkins Hospital, Baltimore, was guest of honor. Alumni of the South Mississippi Infirmary served a dinner during the meeting, the proceeds of which were donated to a nurse suffering from pulmonary tuberculosis.——Dr. Waller S. Leathers of Vanderbilt University School of Medicine, Nashville, Tenn., addressed the Social Workers Conference at the University of Mississippi, June 23, on "Health Problems and Health Work in the South."——Among others, Dr. Charles M. Coker, Eden, addressed the Central Medical Society, Jackson, May 24, on "Why Doctors Don't Locate in the Country," and Dr. Orrin H. Swayze, Yazoo City, on "Acute Dilatation of the Stomach Following Operations."

MISSOURI

Hospital for Crippled Children Opens.—The state hospital for crippled children at Columbia will begin receiving patients, July 11. The requirements for committing children to the hospital are that the county court appoint a physician to examine the children and make a written report stating whether the condition found can probably be relieved, and that the parents are unable to provide means for suitable treatment. When such certificate has been filed, the court will conduct a hearing to which the parents will be summoned, and if it is found that the preliminary legal requirements have been fulfilled, will order the children to the hospital. The physician is allowed a fee of $5 for the examination of the child and the execution of the certificate to be filed with the court. Dr. Frederick A. Jostes, St. Louis, has been appointed full-time director of the service for crippled children at the state university hospital. Dr. Jostes is at present on the orthopedic staff of the Washington University Medical School, and formerly was on the staff of the Shriners' Hospital for Crippled Children at St. Louis. He has done postgraduate orthopedic work in this country and abroad. The legislature has appropriated $35,000 for the care of crippled children at the hospital during the next eighteen months, and the appeal of this work to the public probably will result in donations by private citizens. Already Mr. J. Dozier Stone of Columbia has informed the board of curators that he will provide funds for establishing a dental clinic in memory of his father and mother Inquiries in connection with this new service will be received by Dr Guy L Noyes, dean of the University of Missouri School of Medicine, Columbia

NEW YORK

Meharry Medical College Recognized.—Meharry Medical College, Nashville, Tenn, has been granted recognition by the New York Board of Regents, it is reported Meharry Medical College has been rated in Class A by the Council on Medical Education and Hospitals of the American Medical Association since January, 1923

Society News—Dr Joseph Ivimey Dowling has been elected president of the Eastern Eye, Ear, Nose and Throat Association, which comprises specialists from Albany, Schenectady, Troy, Glen Falls Amsterdam, Gloversville and Rutland, Vt Dr Morris S Lord was elected vice president, and Dr L Prescott Brown secretary-treasurer

Hospital News—The Williamsburg Hospital and the Brooklyn Eye and Ear Hospital will merge about July 1, and will be known as the Brooklyn Eye and Ear Hospital The present home of the Williamsburg Hospital will be sold and it is proposed to use the funds to assist in the construction of a new building at Green Avenue and Cumberland Street, Brooklyn

Erie County Picnic—The Medical Society of the County of Erie held its annual basket picnic, June 23, on the state hospital grounds near Gowanda Physicians in the entire part of western New York, their wives and children were invited The medical superintendent of the hospital, Dr Earle V Gray assisted with the arrangements, placing tennis courts a golf course, fishing ponds, bowling greens and a baseball diamond at the disposal of the guests The scientific program was a demonstration of the results of the treatment of general paralysis by malaria, an outline of the method of committing a patient to the state hospital, and an exhibition of the occupational therapy and physical therapy departments of the hospital

New York City

Society News—Dr John J Masterson was elected president of the Medical Society of Bay Ridge, June 14——The Medical Society of the County of Kings has acquired the four story building at the corner of Atlantic Avenue which adjoins its present building on Bedford Avenue paying, it is reported, $95 000 the society now owns property facing 100 feet on both avenues

Physicians' Golfing Association—The first tournament of the Physicians' Golfing Association was held at the Rye Country Club, June 10 Dr Frank C Carr won the low gross prize with a score of 83, and Dr John G W Greeff the low net prize with a score of 71 The officers are Dr Wendell C Phillips, honorary president, Dr Anthony Bassler, president, and Dr Harold M Hays, secretary-treasurer There will be four tournaments a year The membership is composed of physicians practicing in Manhattan who are members of clubs in the metropolitan district

Personal—Dr Isador W Kahn has been appointed assistant professor of gynecology at the New York Post-Graduate Medical School and Hospital——Dr Joseph H Gettinger was guest of honor at a dinner, June 17, at the Concourse Plaza Hotel, to celebrate his promotion to visiting physician to the pediatric service in the Bronx Hospital——Dr Alexis Carrel of the Rockefeller Institute for Medical Research has been elected a corresponding member of the French Academy of Sciences——Dr Emil Mayer was elected to honorary membership in the American Rhinological, Laryngological and Otological Society at the recent annual meeting in Atlantic City

Clinics for Treatment of Thrombo-Angiitis Obliterans.—At a meeting of the Committee on Thrombo Angiitis Obliterans, June 16, it was decided to establish clinics in various sections of the country for the treatment of thrombo angiitis obliterans The following hospitals in New York have arranged to establish clinics Polyclinic Hospital, Monday, Wednesday and Friday, 10 to 11 a m, Hospital for the Ruptured and Crippled, daily, 3 30 to 5 p m, Orthopedic Clinic, New York University and Bellevue Hospital Medical College, Monday, Wednesday and Friday, 3 p m A unified chart is being prepared that will facilitate keeping the history and records of these cases and make it possible to check the methods of treatment proposed The charts will be furnished to any physician or hospital wishing to cooperate in this study on request to Dr Benjamin Jablons, secretary of the committee, 90 East Riverside Drive Dr Reginald H Sayre was elected chairman of the committee at this meeting, and Dr Charlton Wallace, treasurer.

Purchase of Rare Medical Library.—The faculty and alumni of Columbia University College of Physicians and Surgeons are raising a fund of $35,000 to obtain the collection of rare medical books that belonged to the late Dr George S Huntington, an alumnus of the medical school and for many years the professor of physiology The library is to be presented to the medical center now under construction at Broadway and One Hundred and Sixty-Eighth Street, where it will be available to the profession and will be known as the George S Huntington Memorial Library Many of these books and manuscripts have no duplicates Among the 4 424 volumes are 780 published prior to the year 1800, and 550 volumes published between 1800 and 1850 This is the first time the faculty and alumni of the school have been requested to contribute to the new medical center, and the fund raised will be turned over to Dr Huntington's estate The memorial committee includes Dr Frederick Tilney, professor of neurology, Dr William Darrach, dean of the medical school, and Dr. Samuel W Lambert, president, New York Academy of Medicine

OHIO

Board of Trustees Commended—The house of delegates of the Ohio State Medical Association, at the recent Columbus meeting, adopted a resolution commending the board of trustees of the American Medical Association and the special committee on physical therapy for their effort to clarify, evaluate and standardize the present problems in respect to physical therapy

Society News—Dr Vilray P Blair, St Louis, addressed the Toledo Academy of Medicine, June 3, on 'Surgical Repair of Congenital and Acquired Defects of the Face," and Dr Chester W Waggoner, Toledo, on "Medical Economics", eight members of the academy were requested to talk on medical subjects before the Woodward High School, June 2-3 This was the first assignment under the new speakers' bureau

Dr Cummer Resigns—Dr Clyde L Cummer, associate professor of clinical pathology, Western Reserve University School of Medicine, Cleveland, has resigned after nineteen years' service at the university Dr Cummer has engaged in the practice of medicine since 1908, and is the author of a manual on clinical laboratory methods He was president of the Cleveland Medical Library Association in 1923 and for several years the treasurer

Unlicensed Healers Arrested.—The Ohio State Medical Board caused the arrest in April of three alleged psychic healers on charges of practicing medicine without a license They were John Wolf, Mrs Mildred Morrison and Mrs Carrie Corp all of Columbus Wolf and Mrs Morrison are alleged to have treated Frank A Dorsey, one of the board's investigators They were each fined $200 by Judge Miller and sentenced to sixty and thirty days in the workhouse, respectively Mrs Corp, C J Wohlgumuth and C W Ferguson were each fined $100 and costs for practicing medicine without a license J T Armstrong, Wellsville, was fined $25 and costs, and E W Sherwood, D O Watts and H B Whitesel, Bowling Green, were also fined in January for illegal practice

TENNESSEE

Personal—Dr James K P Blackburn, Pulaski, has been appointed a member of the state board of medical examiners to succeed Dr Fountain B Hulme——A E Godwin has resigned as assistant secretary of the Vanderbilt University School of Medicine, Nashville, it is reported

Health at Knoxville—Telegraphic reports from sixty-seven cities with a total population of about 30 million to the U S Department of Commerce, for the week ending June 4, indicate that the highest mortality rate (20 4) was for Knoxville The mortality rate for the group of cities as a whole was 11 8

Society News—Dr Seale Harris, Birmingham, Ala, addressed the Chattanooga and Hamilton County Medical Society, June 9, on "Dangers of State Medicine"——The Nashville Academy of Medicine and Davidson County Medical Society held five meetings during May at which, among others, Dr Charles L Hill read a paper on "Erysipelas", Dr Oval N Bryan on "Tularemia" and Dr George K Carpenter on "Unusual Epiphyseal Affections——Dr Oliver W Hill addressed the Knox County Medical Society, May 24, on "Observations on the After Effects of Intracraneal Hemorrhage in the New-Born"; Dr. Marvin F. Haygood addressed the society, May 17, on "Study and Comparison of Knoxville's Typhoid Prevalence During the Last Twenty Years."——The Lauderdale County Medical Society, May 5, was the guest of the physicians of Ripley at the Jefferson Davis Hotel at a dinner.——Dr. Ambrose L. Jones, Greenback, addressed the Blount County Medical Society, recently, on "Treatment of Bronchopneumonia."——Dr. Horton R. Casparis, professor of pediatrics, Vanderbilt University School of Medicine, Nashville, addressed the May meeting of the Williamson County Medical Society on "Early Diagnosis of Tuberculosis in Children."——The medical societies of Monroe, Luden and Roane counties will hold joint meetings during June, July and August.

VIRGINIA

Personal.—Dr. Fred J. Wampler, who recently returned from China, has been appointed health officer for Accomac and Northampton counties, succeeding Dr. Robert P. Cooke, who is now in charge of similar work in Lexington and Rockbridge counties.——Dr. Edith J. Lacy has resigned as assistant physician at the Eastern State Hospital, Williamsburg; the *Virginia Medical Monthly* states that Dr. Lacy expects to go to India for medical service.

University News.—At the commencement of the Medical College of Virginia, Richmond, May 31, eighty-nine graduates received degrees of doctor of medicine; thirty-two were commissioned in the Medical Officers Reserve Corps, U. S. Army. The commencement address was delivered by Dr. Hugh S. Cumming, Surgeon General, U. S. Public Health Service, on "Relation of the Physician to the Public." Dr. Cumming is a graduate of the University of Virginia Department of Medicine, Charlottesville, and of the Medical College of Virginia; he was awarded the honorary degree of doctor of science at this commencement, the first nonprofessional degree to be awarded by the college.

Society News.—The annual meeting of the Walter Reed Medical Society of Virginia was held, May 26-27, Yorktown, under the presidency of Drs. John W. C. Jones, Newport News. The speakers from other states included Drs. John T. King, Jr., Baltimore, "Bedside Aspects of Cardiac Arrhythmias"; Charles R. Austrian, Baltimore, "Early Diagnosis of Pulmonary Tuberculosis"; Emil Novak, Baltimore, "Newer Aspects of Endocrinology and Organotherapy in Gynecology"; Guy L. Hunner, Baltimore, "Ureteral Strictures"; Howard Root, Brookline, Mass.; "Diabetic Problems in Practice"; William B. MacNider, Chapel Hill, N. C., "A Study of Chronic Nephritis"; James F. Mitchell, Washington, D. C., "Treatment of Some Common Infections," and Edwin A. Merritt, "Value of the Graham Technic in Study of Gallbladder Disease." Dr. William W. Kerns, Bloxom, is the new president of the society; Dr. Landon E. Stubbs, secretary, and Dr. James E. Marable, treasurer, both of Newport News.——The Augusta County Medical Society made a donation, May 4, of $100 for the relief of flood sufferers in the Mississippi Valley.——The Walter Reed Medical Society at its annual meeting in Yorktown, May 26-27, appropriated $100 to the Walter Reed Memorial Fund.——The Russell County Medical Society has been reorganized after a period of inactivity, and Dr. Thomas T. McNeer, Dante, was elected president.——Dr. Charles S. Dodd, Petersburg, was elected president of the Virginia Society of Otolaryngology and Ophthalmology at the recent annual meeting; it was decided at this time to award a prize every year for the best paper presented by a member of the society.

WASHINGTON

Hospital News.—The Minor Hospital, Seattle, has announced plans to construct a $600,000 addition.——Dr. Robert J. Kearns, Spokane, has been elected president of the staff of Sacred Heart Hospital.

Personal.—Dr. Charles L. Dixon, Renton, has been appointed health officer of King County, and Dr. Nathaniel E. Roberts, Olympia, has been made health officer of Thurston County to succeed Dr. John J. O'Leary, resigned.

Society News.—Dr. Harry Gaylord Willard, Tacoma, president of the state medical association, lead another "medical caravan" to the Clallam County Medical Society, Port Angeles, May 7; among the speakers were Drs. Willard and John Warren Bell, Everett; Adolph O. Loe, Seattle, and Mr. Robert O. Jones, Seattle, secretary of the Washington Public Health League.——The Pierce County Medical Society, Spokane, voted to publish in three daily papers twice a year, thus giving one list every two months, cards showing the members of the society in good standing. The publicity committee reported at its meeting that the telephone company would not carry their publicity advertising as had been done during the last year. Dr. Joseph F. Griggs, Tacoma, addressed this meeting on "Cardiovascular Renal Disease"; the society then adjourned for the summer vacation.——The Western Branch of the American Urological Association will hold its annual meeting, July 5-7, at Portland, Seattle and Vancouver. The speakers from other sections of the country will be Bernard G. Scholefield, Boston, "Tuberculosis of the Kidney"; Dr. William H. von Lackum, Rochester, Minn., "Data on the Infected Prostate"; Dr. Harold L. Morris, Detroit, "Bilateral Renal Calculi"; Dr. Elmer Hess, Erie, "Renal Sympathectomy." The society will meet at St. Vincent's Hospital, Portland, the Medical and Dental Building, Seattle, and the Vancouver General Hospital, Vancouver.——Physicians from Skagit, Whatcom and Snohomish counties held a joint scientific meeting, golf tournamount, and banquet at the President Hotel, Mount Vernon, June 8.

WISCONSIN

Enlarged Program for Postgraduate Study.—A two year program of medical extension work at the University of Wisconsin, has been announced following a joint meeting of representatives of the state medical society, the state medical school and the extension division of the University of Wisconsin. The program has four fields of effort: (1) medical literature and case report service for individual physicians; (2) lecturers for county medical societies, the programs to be supplied without expense; (3) postgraduate courses at the university; (4) special lecture-clinical groups. About $18,000 will be expended on this work. At a subsequent meeting it was decided that the work would be offered under the joint auspices of the state medical society, the medical school and the extension division of the university. The executive committee comprises Chester D. Snell, of the extension division; Dr. Arthur W. Rogers, president of the state medical society; Dr. Charles R. Bardeen and Joseph S. Evans, of the medical school, and Mr. J. G. Crownhart, ex officio. The package library service will be enlarged and a full-time medical librarian employed. The state medical journal will publish a special section on case reports. It will be possible for every county medical society to have the services of members of the staff of the medical school and others as speakers without cost. Requests for program material should be made to Dr. Robin C. Buerki, Wisconsin General Hospital, 1300 University Avenue, Madison. Requests should be preferably on the basis of subjects desired rather than for individual lecturers. The short review courses to be offered by the university medical school will become effective in 1928 and will be in the field of remedial agencies. The lecture-clinical groups will be organized on the North Carolina Plan and become effective in 1928.

GENERAL

Changes in Cuban Journal.—*Vida Nueva*, the Havana journal founded and edited by the late Dr. D. Tamayo, formerly Cuban secretary of public health, is now edited by Drs. O. Montoro and I. Castellanos. The old policy of limiting the scope of the journal to social-medical questions has been abandoned, and instead each issue will be devoted to one important medical subject, as French journals are wont to do. The abstract department has been enlarged and systematized and the number of pages increased; the publication is, in general, more attractive. The subscription price is $5.

Society News.—Dr. John F. Barnhill, Indianapolis, was elected president of the American Laryngological, Rhinological and Otological Society at the recent annual meeting in Atlantic City, and Dr. Robert L. Loughran, 33 East Sixty-Third Street, New York, secretary.——The thirty-second annual meeting of the National Medical Association will be at Detroit, August 15-19, under the presidency of Dr. Carl G. Roberts, Chicago; although many social features have been arranged, the journal of this association states that the dominant note will be "professional progress." All of Wednesday will be devoted to clinics and demonstrations in all the sections.

Renewal of Permits Under National Prohibition Act.—Physicians holding permits under the National Prohibition Act entitling them to prescribe and use intoxicating liquor who desire to retain those privileges during 1928 must file renewal applications on or after July 1, but not later than August 31. Application should be filed with the prohibition administrator having jurisdiction over the district in which the physician practices. For good cause shown, the prohibition administrator may grant an extension of time for filing application, but the granting of such an extension is entirely discretionary with that official, and in no case may the time limit be extended beyond November 30. Physicians failing to make timely application must thereafter apply as for a new permit, if permit privileges are desired. Applications should be submitted in triplicate on forms which will be supplied by the prohibition administrators.

Joint Postgraduate Conference in October.—The annual fall conference of the Kansas City Clinical Society will merge with the 1927 session of the Inter-State Post-Graduate Assembly of North America at Kansas City, October 14-22; this will be the fifth year that the Kansas City Clinical Society has provided a clinical conference, and will conclude its fifth year program to develop the educational advantages of clinical material in Kansas City. The joint session in October will bring together at least eighty clinicians from various countries to hold clinics in the specialties, to present symposiums and to give addresses and demonstrations. The joint meeting will be at the Ararat Shrine Temple, Eleventh and Central streets, Kansas City, Mo. The entertainment program will include alumni dinners, smokers, receptions, automobile drives and a banquet to the guests. The general chairman of the Kansas City Southwest Clinical Society is Dr. E. H. Skinner, 631 Rialto Building, Kansas City, Mo.

"Drinking" Now Adulterates Oysters — Former Decision Repealed. — The department of agriculture has repealed a decision which was issued in 1910. The former decision held that it was not illegal to drink oysters in waters of saline content equal to that in which the oysters will grow to maturity, and that oysters floated in water of less saline content than that in which they will properly mature cannot be considered adulterated if the packages containing them are clearly labeled "floating oysters." The department holds now that the floating or drinking of oysters, as practiced under the former decision, has the effect of adulterating them with water, and the interstate shipment of oysters so adulterated constitutes a violation, even though they are labeled "floating oysters." The department will, therefore, proceed, under the terms of the Food and Drugs Act, against all shipments of oysters whether shucked or in the shell which have been adulterated by floating or other means.

FOREIGN

International Conference on Goiter at Berne.—Under the auspices of the Swiss Goiter Committee, an international conference on goiter will be held in the aula of the university building in Berne, Switzerland, August 24-26. The president of the conference, Dr. H. Carrière, will give the opening address on the general distribution of goiter, and among other speakers will be Prof. L. Aschoff, Freiburg; Dr. David Marine, New York; Professor de Quervain, Berne; Dr. McCarrison, Cooroon, India; Professor Galli-Valerio, Lausanne, and Prof. Wagner von Jauregg, Vienna. The assembly will be welcomed by the officials of the canton and the city of Berne. There will be a demonstration in the surgical clinic by Prof. F. de Querin, August 27, and in the afternoon a trip to the poor farm with a demonstration of cretins. The conference was first planned by the Swiss Goiter Committee in 1923, and had to be postponed until this year.

Postgraduate Courses in Berlin.—The association of professors, in collaboration with the organization representing the Kaiserin Friedrich Institute and with the medical faculty of the University of Berlin, has organized international postgraduate courses in medicine to be held in Berlin. There will be continuous courses extending over the greater part of the year, and courses held only from September 15 to October 31. The two types of continuous courses are (1) individual courses in all branches of medicine, with opportunities for practice, usually covering four week periods, and (2) so-called externships in clinics, hospitals and laboratories, chiefly intended for medical men seeking practice as assistants for longer periods. The short courses are general courses in all branches of internal medicine, with emphasis on therapy. There will also be short courses for nose, ear and throat specialists. The medium of instruction is German, although many teachers are able to instruct in English, French or Spanish. Further information may be obtained by addressing Kaiserin Friedrich Stiftung, Kaiserin Friedrich Haus, 2-4, Luisenplatz, Berlin, NW 6.

Government Services

U. S. Public Health Service

Surgs. Joseph W. Mountin, Jefferson City, Mo., Knox E. Miller, New Orleans, and Asst. Surg. Erval R. Coffey, Jefferson City, Mo., and Acting Asst. Surg. Winfield K. Sharp, Jr., Nashville, Tenn., and Associate Sanitary Engineer A. L. Dopmeyer, Memphis, Tenn., were recently ordered to duty to cooperate with the state and local health authorities in connection with the prevention of epidemic diseases in the flooded areas of the Mississippi Valley, and Asst. Surg. Raymond A. Vonderlehr and Surg. Randolph M. Grimm, both of New York, have been assigned to duty at the hygienic laboratory, Washington, D. C.——Surg. Peter J. Gorman has been relieved from duty at Ellis Island and directed to proceed to duty at Nogales, Ariz., assuming charge of activities there.——Surg. Joseph Goldberger was directed to proceed from Washington to Milledgeville, Ga., then to Dallas, Texas, and return in connection with pellagra studies.——Dr. Mather H. Neill has been relieved from duty at Honolulu and assigned to duty at marine hospital number 19, San Francisco.——The following officers have been ordered to duty at the stations indicated after their names: Surg. Newton E. Wayson to Honolulu to assume charge of the U. S. Leprosy Investigation Station; P. A. Surg. Ralph L. Lawrence to Washington, D. C., and report to the Surgeon General for duty. Asst. Surg. John F. G. Gates to U. S. Quarantine Station, New Orleans; Asst. Surg. George G. Holdt assigned to duty at U. S. Marine Hospital number 19, San Francisco, Calif.; Surg. Harvey G. Ebert, directed to proceed to Providence, R. I., and assume charge of service activities at that station; Surg. Herbert M. Manning, directed to proceed to Marcus Hook, Pa., to assume charge of the U. S. Quarantine Station; Surg. Harry E. Trimble assigned to duty at U. S. Marine Hospital number 7, Detroit; Asst. Surg. F. S. Fellows, assigned to duty at U. S. Quarantine Station, Rosebank, S. I., N. Y.; Surg. Marion S. Lombard, directed to proceed to Key West, Fla., and assume charge of U. S. Marine Hospital number 10; Asst. Surg. Albert T. Morrison, assigned to duty at U. S. Quarantine Station, Angel Island, Calif. The following reserve officers have been ordered to duty: Asst. Surg. Ralph Horton to U. S. Marine Hospital number 1, Baltimore; Asst. Surg. Clarence D. Kosar to Washington, D. C., and return for conference at the bureau; Asst. Surg. Fred W. Caudill, assigned to duty at U. S. Marine Hospital number 3, Buffalo Surg. C. P. Knight has been directed to proceed from the Canal Zone to Washington, D. C., to report to the Surgeon General for duty.——Surg. G. W. McCoy has been directed to proceed from Washington, D. C., to Rockford, Ill., in connection with field investigations of smallpox.

Changes in Veterans' Bureau Personnel

The May issue of the U. S. Veterans' Bureau Medical Bulletin reports the following changes in personnel:

Dr. Edward R. Anthony, Jr., resigned at Memphis, Tenn.
Dr. Clifford C. C. Brace, appointed at North Chicago.
Dr. William C. Davis, transferred from Tupper Lake, N. Y., to Fort Bayard, N. M.
Dr. John L. Donahue, reappointed at Fort Bayard, N. M.
Dr. Morris H. Goodman, transferred from Washington, D. C., to St. Cloud, Minn.
Dr. Mansell B. Holmes, appointed at North Little Rock, Ark.
Dr. John H. Kay, resigned at North Little Rock, Ark.
Dr. Claude C. Keeler, transferred from St. Paul to Fort Snelling, Minn.
Dr. David Kramer, resigned at Fort Bayard, N. M.
Dr. Louis S. London, resigned at Bronx, N. Y.
Dr. Herbert O. Matthews, appointed at Tuskegee, Ala.
Dr. Rob Roy McCully, reappointed at Rutland Heights, Mass.
Dr. Frank W. Schwarz, transferred from Legion, Texas, to Perry Point, Md.
Dr. George M. Shewalter, transferred from Outwood, Ky., to Aspinwall, Pa.

REGIONAL OFFICES

Dr. Charles R. Bird, resigned at Indianapolis.
Dr. Edward W. Finn, resigned at Boston.
Dr. Jasper E. Guernsey, appointed at Helena, Mont.
Dr. Ralph R. Harris, resigned at Cleveland.
Dr. Mansell B. Holmes, resigned at Dallas, Texas.
Dr. Warner L. Lindsay, resigned at Salt Lake City.
Dr. Frank E. McClane, resigned at Detroit.
Dr. Carl W. McGaughey, transferred from Cincinnati to Chicago.
Dr. Albert J. Weirick, resigned at Chicago.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 25, 1927.

Ernest Henry Starling

The death of Ernest Henry Starling, C.M.G., M.D., F.R.C.P., F.R.S., Foulerton research professor of the Royal Society, while on a voyage for his health in Jamaica, removes one of the greatest physiologists of the world, whose work on the internal secretions was epoch-making and on the circulation of the first importance. After a brilliant career at Guy's Hospital, he graduated in medicine in the London University in 1888. He continued his studies at Heidelberg under Kuhne, and became demonstrator of physiology at Guy's in 1889 and joint lecturer in the following year. He studied under Heidenhain at Breslau, which led him to take up the study of lymph formation. In 1889 he succeeded Schäfer as professor of physiology at University College, London. There he not only taught physiology but made most of the researches which have made him famous. Much of his work was done in collaboration with his brother-in-law, William Bayliss, also a great physiologist. Starling's interest in physiology was general, but those physiologic processes which seemed susceptible of interpretation in terms of chemistry and physics most attracted him.

His first paper, written with Bayliss in 1891, was on electromotive phenomena of the mammalian heart. Waller had recently studied the electrical variation of the heart. Starling thought that, by photographing the movements of the capillary electrometer connected with electrodes placed in different positions on the naked heart in the anesthetized animal, much might be learned of the nature of the cardiac contraction. At that time any sort of muscular continuity between the auricles and the ventricles was denied, and the view that conductivity was due to some nervous network supplying the fiber was in favor. Bayliss and he set out to ascertain the course and time relations of the wave of contraction in the ventricle, the nature of the transmission from auricle to ventricle, and throughout the ventricle. They showed that (1) the ventricular contraction is a single wave starting from the base; (2) there is a natural block at the auriculoventricular groove, and (3) the rate of transmission of the contraction wave is about 5 meters a second. They thus made an important advance in our knowledge of cardiac contraction. They next investigated the action of the vagus and accelerator nerves on the auricles, on the ventricles, and on the conducting power of the auriculoventricular junction in the mammal. The effects of these nerves on the heart of frogs and tortoises had been previously studied by Gaskell and Heidenhain, and that of the vagi on the auricle of mammals. Bayliss and Starling showed that there was no essential difference between mammals and cold-blooded animals; that the vagus depresses conduction in auricle, auriculoventricular junction, and ventricle; and that the accelerator nerves have the opposite effects. They next made an exhaustive study of the simultaneous changes in the arterial and venous pressures of various regions of the body under a great variety of experimental conditions and showed the universal applicability of the principle of the circulation worked out by Ludwig.

In 1892, Starling investigated the mechanism of lymph flow. At first he adopted the interpretation of Heidenhain that the lymph formation could not be explained by filtration and that it was necessary to suppose a selective activity of the vessel wall. But later he came to the conclusion that it was unnecessary to assume a secretory activity of the endothelium, and that there was no experimental fact inconsistent with the view that lymph formation was a function of two factors—permeability of the vessel wall and intracapillary pressure. But to these he had afterward to add another factor—the osmotic pressure of the colloids, to which the walls of the capillaries are relatively impermeable. He showed that hydrostatic pressure and osmotic pressure with altered permeability of the endothelium can explain edema and pleural effusion. His work with Bayliss is an important advance. He showed that (1) peristaltic contractions are coordinate reflexes carried out by the local nervous mechanism and independent of the central nervous system; (2) local stimulation of the intestine produces excitation above, inhibition below, and (3) besides the local mechanism, every part of the intestine is subject to the control of the central nervous system through the splanchnics and vagi, the former being inhibitory and the latter containing both augmenting and inhibitory fibers.

Next came their epoch making work on pancreatic secretion. They discovered secretion, and this led to the introduction into physiology by Starling of a new conception—that of "hormones," or "chemical messengers." This work culminated in his Croonian lectures to the Royal College of Physicians in 1905 on the chemical correlation of the functions of the body. In 1909 he returned to the subject of his earliest work—the physiology of the heart. He devised his now famous "heart-lung preparation," in which the lesser circulation is intact but the only paths from the left ventricle to the right auricle are through the coronary arteries, and an artificial connection in which the resistance can be regulated. He showed that cardiac muscle, like voluntary muscle, contracts more forcibly as it is stretched even up to the point at which the texture is fractured. Therefore, to work at greatest efficiency a heart must first dilate, which it inevitably does, as the pressure in front of it increases. This Starling called the "law of the heart." In his Harveian oration of 1923 he said: "The heart has thus the power of automatically increasing the energy evolved at each contraction in proportion to the mechanical demands made upon it, behaving in this way almost like a sentient, intelligent creature." In 1920, with Anrep, by an ingenious cross-circulation method, built up on his heart-lung preparation, he showed that whereas rise of aortic pressure leads to dilatation of the blood vessels as long as the depressor nerves are intact, change in the blood pressure in the supply to the brain produces the reverse change in the pressure of the rest of the body. These fundamental laws of regulation had been suspected but never before established.

Fatal Administration of Carbon Dioxide in Mistake for Nitrous Oxide

An inquest was held by the deputy coroner for the city of London, on the body of a woman, aged 35, who died in St. Bartholomew's Hospital. An anesthetic was given to the patient for an operation, and a few minutes later she showed signs of failure. Efforts to restore animation, including heart massage, were tried for seventy-five minutes, without success. Sir Bernard Spilsbury, who made a necropsy, stated that the woman was quite healthy, and the operation that she was to have had was often quite successful. The cause of death was asphyxia from carbon dioxide gas, which was given sometimes in small quantities as a stimulant. The anesthetist said that he began with gas and oxygen and turned on carbon dioxide instead of nitrous oxide gas. He used 80 parts of carbon dioxide to 20 parts of oxygen, instead of 80 parts of nitrous oxide to 20 parts of oxygen. The dioxide cylinders were painted green down the sides and black on top, and his mistake occurred through his standing up and looking at the cylinder from above instead of from the side. To the question of the coroner as to whether the mistake might have occurred at other times he replied in the affirmative and suggested that the cylinders should be green right up to the top and that there should be a different tap. The anesthetist added that he realized his mistake in three minutes, and before the patient was moribund, and he at once asked for strychnine. Everything possible was done for her. During the past twenty years he had given about 20,000 anesthetics. Recording a verdict of "death from misadventure" the coroner said that the anesthetist admitted that he made a mistake and there was no evidence of negligence.

The Prevention of Diphtheria

A report on "The Prevention of Diphtheria," by Dr. J. Graham Forbes has been issued by the Medical Research Council. It was originally prepared from the information of the Public Health Committee of the London County Council, and is a comprehensive survey of the methods for the prevention of diphtheria which have been practiced on a large scale during the past ten years in America, and to a much less, though growing, extent in Great Britain. The antitoxin treatment of the disease brought down the case mortality quickly from 30 to below 10 per cent, but since 1904 the decline, though continued, had only been from about 9 to about 7 per cent. During the whole time of the use of this method the attack rate and the virulence of the disease had been increasing. In London, for instance, between 1904 and 1924 the attack rate per thousand persons living rose from 11.2 to 19.1, and the deaths from 0.99 to 1.33. The cost of applying to the 620,000 children of the London schools the Schick test for diphtheria and prevention of the disease by active immunization would be $500,000, inclusive of extramedical service which might amount to $425,000. During 1921 the cost of diphtheria alone to London taxpayers was estimated at about $2,500,000 and the cost of every case of diphtheria at about $150, a sum which would cover the cost of protecting 200 children. After analyzing the results of preventive work in Great Britain and also for many countries abroad the conclusion is reached that the Schick test and immunization constitute one of the most notable advances in preventive medicine. Their systematic adoption would result in a great yearly saving of child life, notably in London, where though diphtheria has been more generally prevalent and presents a more pressing and difficult problem than in the provinces, no coordinated effort has been made to introduce immunization. The problem calls for the closest cooperation of all authorities concerned, whether public health, administrative or educational, particularly in London, where, for diphtheria, the attack rate surpasses, and the mortality rate nearly so that of any other city in Great Britain, and almost every other capital in Europe, if not the world.

Medical Research in the Colonies

At the recent colonial conference, especial attention was given to medical research and medical education, to the training of natives as dispensers and sanitary officers, and the training of native women as general nurses and workers at child welfare centers. The provision of efficient sanitary services, including European and native inspectors, was also discussed. There are now medical research institutes more or less adequately staffed in the West African, East African, Middle Eastern, and Far Eastern groups of colonies, and in the main the colonial governments are alive to the importance of medical research, and within the limit of their resources are giving it adequate support. There is need, however, for more effective contact between research workers in the tropics and those engaged in similar activities in Great Britain and other countries, especially as it is becoming recognized that medical research has no colonial boundaries and that research in the tropics may have an important bearing on disease problems in temperate zones.

PARIS

(From Our Regular Correspondent)

May 25, 1927

Statistics on Cancer of the Tongue at the Fondation Curie

MM. Roux-Berger and Octave Monod have collected statistics on cases of cancer of the tongue, in which treatment by radium and by roentgen rays was given at the Fondation Curie, from Jan. 1, 1920, to Dec. 31, 1925. The report covers 311 cases, 287 of which were studied in the most remote stages. There were seventy-seven recoveries of from one to six years' standing, or an equivalent of 26.7 per cent. Recoveries are becoming more numerous, owing to the progress of technic. Anterior dorsolingual cancers were almost all treated by the introduction of radium; the posterior dorsal cancers by radium, with or without exterior irradiation (the combination of the two methods seeming to give the best results). In some cases, roentgen rays or mere external irradiations were employed, with negative results. In the treatment of infralingual cancers, the use of plaster casts appeared to give the best results. An important improvement in technic consisted in removing them, as far as was feasible, from the maxillary arch to prevent radionecrosis otherwise frequent. A large number of patients classed among the "failures" were cured of their local lesion but developed later glandular metastases. The results of the treatment of adenopathies are much more difficult to appraise, for all the cases in which an operation was not performed leading to recovery remain doubtful, since the inflammatory or neoplastic nature of the glands was not ordinarily verified histologically. Of thirty-seven patients who did not present glands clinically distinguishable, degeneration of glands was noted in seven later. On the other hand, of forty-two evident adenopathies not treated, eleven resulted in recovery. The introduction of radium, though it may effect great improvement, will not of itself cure adenopathy, for it is inapplicable to the small deep-lying glands, which are numerous. Associated with exterior apparatus acting on a surface of skin 7 or 8 cm. wide, it gives better results. But cancericidal doses are difficult to reach and the preferred treatment appears to be a combined radium and surgical treatment.

The Decrease in the Consumption of Alcohol in France

The administration of indirect taxes, which records the imposts collected on alcohol, has issued a report from which it would seem that the consumption of alcohol in France has diminished by 46 per cent in thirty years. According to the statistics cited, the total consumption of alcohol must have decreased by 735,685 hectoliters, and the average per individual by two liters. These results appear due, in part, to the activities of the antialcoholic leagues, but particularly to the greatly increased tax imposed by the state on alcohol. However, the physicians in the hospital services have not observed a diminution in the number of patients whose condition was due to or aggravated by the excessive use of alcohol. M. Achard has even declared that, since the war, alcoholism has appeared to him to be on the increase, especially in women, in whom it was formerly exceedingly rare. There seems to be no other explanation for the discordant views than that the tax on alcohol is in many instances fraudulently evaded, for it is a common observation that fraud develops apace when taxes are raised to a high level. There is in France an unfortunate law on the statute books, the abolition of which has been perseveringly demanded by the hygienists but without avail, which authorizes every producer of wine and cider or grower of fruits to distil 10 liters of brandy each year for his personal use without payment of a tax on it. The law was suspended for a time immediately after the war, during the first enthusiasm for far-reaching reforms. The members of the chamber of deputies, harassed by their constituents, have seen fit to restore the law, although the privilege was reduced to 10 liters. It has been calculated that the privilege is extended to several hundred thousand growers, which allows an immense quantity of alcohol to escape payment of duty. However, while it may be admitted that 46 per cent reduction may not give a faithful conception of the true state of affairs, there has been a notable diminution in the consumption of alcohol in France during the past thirty years.

Anatoxins

Anatoxins, the serums discovered at the Pasteur Institute by Ramon and widely used at present, are toxins attenuated by heating in combination with formaldehyde or sodium palmitate over a water-bath at a temperature of 38 C. for from fifteen to twenty days. They have then lost their toxicity and have become fit to use as vaccines. Antitetanic serum is today prepared in the same manner, and when injected does not cause a serum reaction. M. Vechiu, of the Société de pathologie comparée, has reported numerous observations from which it appears that formaldehyde and sodium palmitate injected in large doses in animals that have been given tetanic toxin do not exert in their organism any attenuating effect on the toxin.

Favus in France

Dr. Jeanselme, professor of dermatology and venereology at the Faculté de médecine de Paris, and Dr. Joannon have presented a communication on favus, or tinea favosa, which had become rare in France before the war, but which is again becoming frequent by reason of the increasing number of cases brought in by foreign immigrants. The latter come chiefly from Poland, Russia, Roumania and Armenia, and, for the most part, are crossing France on the way to the United States, but they are prevented from continuing their journey by the rigorous sanitary control that is imposed in France on these immigrants. Immigrants are sent back to France by the American authorities when, as sometimes happens, they succeed in escaping such control. In that case they become stranded in Paris and are sent to the service of Dr. Jeanselme in the Hôpital St. Louis, in which are centralized all the cases of leprosy discovered among the traveling foreign element This fact is just one more added to the many that go to prove that an energetic sanitary control of immigrants in France is needed such as is demanded unceasingly by Prof. Léon Bernard before the League of Nations, patterned after the American system, although the administration of such a system will be admittedly much more difficult in France because of the long extent of the land frontiers and the ease with which these may be crossed.

Agreement of the Composition of a Product with the Announcements on the Label

The manufacturer of a powder used in the preparation of a table beverage was summoned before the correctional court for having mentioned on the label two products of which according to analytical chemists, there were only "traces" present. The procurator of the department of the Seine had concluded that the products were represented by too small quantities to be designated. The court, however, decided that the defendant had not violated the law of 1905 pertaining to fraudulent practices but, on the contrary, was quite within his rights in mentioning all the substances composing the product, irrespective of the quantity present, minimal though it might be, and rendered a judgment of acquittal.

Information Bureau Regarding Spas and Climatic Resorts

A French information bureau regarding spas and climatic resorts has been opened in Paris, 15 rue Royale (Office *thermal et climatique français*), the object of which is to aid patients, French and foreigners, in the selection of suitable places. The bureau will furnish all information needed in regard to "cures" (cost and nature of treatment). It will without charge reserve rooms in hotels in accordance with requirements and at prices compatible with the resources of each individual. For journeys it will issue special tickets and will provide means of transportation not only to the health resorts but also for drives and excursions. The bureau states that it will endeavor to procure everywhere special terms for physicians and their families.

RIO DE JANEIRO

(From Our Regular Correspondent)

May 15, 1927.

Complement Fixation in Leprosy

Dr. J. M. Gomes of São Paulo has recently studied the value of several complement fixation tests in leprosy. The Wassermann test is practically useless for diagnostic purposes since leprous serums deviate the complement with a syphilitic antigen almost as well as syphilitic serums. The Kolmer modification and Kahn's precipitation test seem more advantageous as, according to some workers, they are absolutely negative in leprosy. The ideal reaction should be, however, positive for leprosy and negative for syphilis. Dr. Gomes aimed at three objectives: to secure one more agent for early diagnosis; a better differentiation between the two diseases, and a means of showing the coexistence of both leprosy and syphilis. Gomes described a number of his cases to show the advantage gained by treating in such coexistent infections the syphilitic process before instituting treatment for leprosy. His work followed the lines of Dreyer's and Taylor-Malone's experiments on defatting acid-fast bacilli. For his complement fixation tests he used *Streptothrix leproides*, after defatting with olive oil and acetone, according to Mejunkin's technic. Altogether, 167 serums from normal subjects and patients with syphilis, tuberculosis, skin diseases and actual or suspected leprosy were studied. The reaction proved negative in all these conditions, with the exception of leprosy, and a slightly positive result in a case of tuberculosis. In leprosy, the positive results reached 82.29 per cent, distributed as follows: mixed type, 95.23 per cent; tubercular, 88.88 per cent; anesthetic, 87.50 per cent; maculo-anesthetic, 70.37 per cent; fruste forms, 50 per cent. The negative results were mostly among cases either cured or recovering. Among twenty-eight leprosy carriers, a number of them without clinical signs, 37.71 per cent were positive.

Fuchs in Brazil

At the invitation of the Rio de Janeiro medical school, Prof. E. Fuchs of Vienna has come to give a series of lectures on ophthalmology.

Enormous Number of Gallstones in a Patient

Among other interesting disclosures in a patient operated on for gallstones, Prof. Brandão Filho mentions the large number, 1,445, of calculi in the gallbladder. Most were small, but some were as large as hazelnuts. The strangest thing was the complete lack of any signs of pericholecystitis in spite of so many stones. The patient never had jaundice, despite the frequent attacks which reflected the migration of stones. These, however, were small and did not block the common duct with consequent retention of bile.

Uselessness of Steinach's Operation in Parkinson's Disease

In the *Lancet,* some time ago, Walker and Cook reported encouraging results in three cases of paralysis agitans in which Steinach's operation was performed for rejuvenation purposes. Brandão Filho tried the operation in a case of the same disease, with no improvement whatever afterward. Of course, one case is not enough to afford a basis for passing on the merits of any treatment.

The New Cancer Institute

The new Cancer Institute of the Oswaldo Cruz Foundation has all possible equipment. The Laboratory of Scientific Research has all the material necessary for pathologic, therapeutic, surgical and radiologic work. All kinds of animals will also be available, the necessary accommodations being provided for them. The hospital department is divided into two sections: hospital proper and dispensary. The hospital is again subdivided into two sections: roentgen-ray and Curie, devoted to roentgen-ray and radium therapy, respectively. The upper floors have wards for needy patients. The third floor is reserved for pay patients. There is little question as to the new institution being the largest and perhaps best equipped among all those devoted to cancer.

ITALY

(From Our Regular Correspondent)

March 31, 1927.

The Death of Antonio Carle

Italian universities have suffered another loss in the death of Prof. Antonio Carle, director of the surgical clinic of Turin and chief surgeon in the Ospedale Mauriziano of that city. Born in 1855 in the province of Cuneo, Carle was graduated at Turin and continued his studies in Billroth's clinic. His first important researches were studies on tetanus. There followed researches on the circulatory changes in the brain in anesthesia; experiments on typhoid; studies, in collaboration with Lustig, on the etiology of endemic goiter, and studies on benign conditions of the stomach and their treatment by gastro-intestinal lavage. In 1893, he was made professor of special surgical pathology at the University of Turin, and in 1900 he became the director of the Clinica Chirurgica. In addition to numerous monographs on the surgery of the stomach and of the thyroid, he wrote, in collaboration with Herlitzka, the chapter on uterine tumors for the Trattato italiano di chirurgia. He was a member of many scientific academies, national and foreign, and was for many years "*senatore del regno.*"

National Congress of Hydrology and Climatology

The eighteenth Congresso nazionale di idrologia e climatologia will be held in Milan in the early part of October. The two main topics on the program are: (1) the present status of knowledge concerning the action of mineral waters, to be presented by Prof. Adriano Valenti, and (2) the sojourn of tuberculous patients in climatic resorts, with reference to legislation, therapy and hygiene. The leaders in this discussion will be Prof. Ambrogio Da Gradi and Dr. Emilio Silvano.

Opposition to Neomalthusian Propaganda

The new public safety law contains provisions directed against neomalthusian propaganda, and declares that writings, pamphlets, illustrations, and other means that serve to make known methods for the prevention of conception or for the interruption of pregnancy, even though such methods are applied under the pretext of therapeutics or in the name of science, are offensive to morals and good breeding. Likewise, the insertion in newspapers of notices or correspondence pertaining to neomalthusian practices is prohibited.

Vital Statistics

Dr. Molinari has recently published a series of vital statistics on the commune of Milan for the year 1925. The population of Milan, the capital of Lombardy, as of Jan. 1, 1925, was 864,654, exclusive of the garrison. The number of marriages contracted in Milan in 1925 was 6,362, or 7.34 per thousand inhabitants. The total number of births was 12,720 (6,480 males and 6,240 females), or 14.7 per thousand inhabitants. The birth rate (which continues to decrease) is one of the lowest in the large cities of Italy. The birth rate for Rome was 24.75; Naples, 25.43; Turin, 11.94; Genoa, 12.62; Florence, 25.59, and Bologna, 27.16.

The total number of deaths in Milan in 1925 was 11,627, or 13.58 per thousand inhabitants. The death rate in Rome was 16.44; Turin, 15.17; Venice, 18.93.

Provisions for Child Welfare

At recent sessions, the executive committee of the Opera nazionale per la protezione della maternità e dell' infanzia decided to establish in Latium four ambulant chairs of child welfare, to be delegated to trusted physicians of the society. The committee plans to create also a first nucleus of fifty-four obstetric and pediatric advisers in a like number of communes of the realm, together with permanent seaside colonies for the children of government employees, who will pay a low rate, while the major expense is assumed by the welfare society.

An Exposition of Italian Universities

The second exposition of the universities of Italy will be held in Rome in August. At the same time, students from all countries will convene at Rome to take part in the congress of the international confederation of students.

BERLIN

(From Our Regular Correspondent)

May 28, 1927.

Congress of the German Society of Internal Medicine

(Continuation)

Of the remaining addresses — to the number of about 100 — delivered at the Congress of the Deutsche Gesselschaft für innere Medizin, only the most important can be mentioned. In the field of nervous disease, Hohmann of Cologne spoke on the galvanic method of testing stimulability in organic neuroses. Before psychotherapy is applied, it must be determined to what extent psychic disturbances are the cause and how far peripheral failure of vegetative functions may be incriminated. In organic disorders of purely psychogenic origin, increased stimulability is absent. Such conditions, in contradistinction to cases with increased stimulability, can be cured promptly and permanently by psychoanalysis or suggestion. The researches of Schön of Leipzig, with operative exclusion of controlling portions of the brain, on the rabbit, and analysis of the effect of morphine on the respiration of intact animals operated on, leads to the assumption of the following control centers for respiration: in the posterior portion of the midbrain a stimulable center, and in the thalamus and cerebrum retarding centers acting on the respiration.

Hansen and Gessler of Heidelberg were able, by means of hypnosis, so to change heat regulation in some patients that, when given the suggestion of heat, accompanied by simultaneous cooling, they behaved as if no cooling had taken place. No increase in the consumption of oxygen occurred. On the other hand, when the cooling was omitted and only the suggestion of cold was given, an increase in the oxygen consumption amounting to from 30 to 40 per cent (the effect of a cold douche) was established with the Benedikt apparatus. Kauffmann of Cologne stated that, with endolumbar injection and lavage treatment with a quinine solution he had obtained good results in meningitis and other diseases of the central nervous system. He uses a special type of apparatus. Stahl and Busch of Rostock found as a by-effect of morphine (which could be eliminated by atropine) a reduction of resistance to toxins and a loss of weight in white mice.

Regelsberger of Erlangen reported his researches on the sleep curve in man, as determined by the Trendelenburg apparatus, and stated that there is a high peak just before midnight and another high peak (though not so high) just after midnight; in pathologic cases the reverse condition prevails. Friedberger of Berlin discussed the influence of diet on tumor growth in rats, and stated that a diet consisting of raw foods favored such growth, whereas, on a diet of overcooked food, only 42.9 per cent of the tumors increased in size. With the best food (egg yolk), from the standpoint of the caloric estimate, the tumor growth was also best.

In the field of research on the circulation, Bruhns of Königsberg brought out, following investigations on the elimination of cardiac standstill, that artificial respiration will not produce an emergency circulation. There is too little blood in the left heart and in the arteries, and the reddening of the skin associated with apparent death is due to the filling of the capillaries with venous blood through ejection of blood from the upper abdomen and the thorax. Also massage of the heart was shown to be important. Various medicaments, when injected into the heart, are likewise of value. The combination of heart massage with artificial breathing is needed, and simultaneously inflation with oxygen. For the relief of cardiac standstill Sylvester recommends artificial respiration in combination with rhythmic compression of the thorax and the inflation of oxygen. Schott of Cologne was able in the rabbit to effect partial resuscitation of an isolated heart. An essential factor was the expansion of the heart wall. Also in a dead person, by the intravenous induction of oxygen the heart can be made to beat from two to three hours after the electrocardiogram has ceased to show that the heart is functioning.

Guggenheimer and Fisher (Berlin) reported on the effects of exceedingly dilute solutions of iodine and bromine, which produce in the cat heart distention of the vessels and increased velocity of circulation.

Magnus-Levy and Siebert (Berlin) found in some types of grave nephritis a retention of ammonia corresponding to the gravity of the case and recommend reduction of the protein intake and the administration of basic salts.

Metabolism problems came in for comprehensive treatment. Grafe and Meythaler (Wurzburg) established by their researches that the blood sugar itself checks insulin production and thus constitutes a regulating hormone, to a certain extent. Depisch of Vienna found that the degree of alimentary hypoglycemia represents a measure for the stimulability and performance of the islands of Langerhans. In patients with exophthalmic goiter the islands of Langerhans oppose, to a certain extent, the tendency toward loss of weight. In obesity there are cases that owe their origin to an increased action of the islands.

Deusch of Rostock did not find in 100 cases of diabetes mellitus either clinical manifestations of a disturbance of the external pancreas secretion or any changes in the normal content of ferments as represented by trypsin, diastase and lipase. After intravenous injection of insulin, there resulted an increase of the external pancreas secretion, so that insulin in this respect is an antagonist of epinephrine. The effect is produced through *stimulation of the vagus*. Cobet and Nothmann (Breslau) found insulin in the urine of healthy subjects every day in quantities equal to from 15 to 30 injection units; in grave diabetes the quantity was materially lessened. Insulin administered in coma or precoma is not found in the urine. Following retention of carbohydrate, insulin-like substances are excreted in larger quantities; in the diabetic patient, however, the quantity of insulin is diminished for a few days. Also in the urine of the healthy dog insulin was found, but it disappears within a few days after the extirpation of the pancreas. Lublin of Breslau called attention to the mutual influence exerted on respiratory metabolism by insulin and synthalin, on the one hand, and by epinephrine and similar substances, on the other hand. The former facilitate the change of carbohydrates into fat; the latter make it more difficult or prevent it. Petrén of Lund gave his observations on sixty-eight instances of coma occurring in fifty-five diabetic patients during the past four years, who were treated with insulin. Three patients died from coma in the hospital; one because too little insulin was given him, and the two others because they refused insulin treatment; four died from coma at home and seven from other diseases. Injections of dextrose are not recommended, but rather a sensible diet with much fat, cream and vegetables (Petrén diet). Meyer-Bisch of Göttingen found in dogs and rabbits a blood sugar increasing action of the pancreatic juice that had been subjected to ultrafiltration, indicating the presence of an anti-insulin-like substance. In an alkaline animal there is a diminution of the blood sugar. Marx of Bonn succeeded through the ingestion of sugar in the healthy subject in producing changes in the water balance of the tissues, and in the diabetic patient, by the ingestion of water, he effected changes in the blood sugar content.

In connection with the roentgenologic diagnosis of the abdominal and thoracic organs, Wolf of Davos demonstrated the funnel shaped shadow in certain cases of tuberculosis. Götte demonstrated in subjects whose general clinical condition was but slightly disturbed extensive bronchopneumonic foci in the lung, which undergo rapid changes and are regarded as primary influenzal pneumonia. Paul Krause of Munster holds that iodized sesame oil as a contrast agent is indicated only in case operation is to be done, as injuries are apt to occur even with careful technic.

Pribram of Berlin demonstrated the method of roentgenologic examination of the duodenum with simultaneous injection of air and a small amount of the contrast agent. Gloor of Zurich emphasized that four symptoms were important for the early diagnosis of tuberculosis of the intestine: anemia, constipation, a negative Pirquet reaction and the presence of blood in the stool. Singer of Vienna recommended as cathartics quinine derivatives, which stimulate peristalsis of the large intestine. The application is intravenous, or in the form of suppositories or as an enema.

Marriages

Newell Walton Giles, Amherst, Mass., to Miss Emma Virginia Springer of Jackson Heights, Long Island, N. Y., May 23.

George Tryon Harding, III, Worthington, Ohio, to Miss Mary Virginia Woolley, of Atlanta, Ga., June 2.

Charles William Mayo, Rochester, Minn., to Miss Alyse Varney Plank of Philadelphia in June.

Walter Nathaniel Nelson, Bridgeport, Conn., to Miss Rachel M. Atwell of Durham, May 7.

Joseph G. Mayo, Rochester, Minn., to Miss Ruth Rakowsky of Joplin, Mo., June 11.

Konrad Frank to Miss Marie Fee, both of St. Louis, June 1.

Deaths

Virgil Pendleton Gibney ⊕ New York; Bellevue Hospital Medical College, New York, 1871; at one time clinical lecturer, clinical professor and professor of orthopedic surgery, Columbia University College of Physicians and Surgeons, New York; first president of the American Orthopedic Association; since 1922 surgeon emeritus of the Hospital for the Ruptured and Crippled; formerly on the staff of the St. John's Guild Hospital, New York Nursery and Child's Hospital and the Neurological Institute, New York, and the Bridgeport and St. Vincent's hospitals, Bridgeport, Conn ; author of "The Hip and Its Diseases"; aged 79; died, June 17, at his home in Bridgeport, Conn.

Bennett Franklin Davenport ⊕ Watertown, Mass.; Medical Department of Columbia College, New York, 1871; Harvard University Medical School, Boston, 1871; professor of chemistry, Massachusetts College of Pharmacy, 1879-1886; dairy inspector for the city of Boston, 1882-1885; chemist, Massachusetts State Board of Health, 1882-1892, and the state dairy bureau, 1892-1921; chairman of the Watertown health park and water boards; formerly coroner of Suffolk County; aged 82; died, June 3, at the Cambridge (Mass.) Hospital, of embolism following an operation for enlarged prostate.

Marie Charlotte Schaefer, Galveston, Texas; University of Texas School of Medicine, Galveston, 1900; member of the American Association of Anatomists; associate professor of histology and embryology at her alma mater; aged 52; died, May 27, at the John Sealy Hospital, of coronary thrombosis.

Clarence Wheeler Bassett ⊕ Sharon, Conn.; Medical Department of the University of the City of New York, 1882; health officer of Sharon; on the staff of the Sharon Hospital; aged 69; died, March 17, at St. Francis Hospital, Poughkeepsie, N. Y., of carcinoma of the colon.

Joseph Leo McGinley, Wilkes-Barre, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1912; member of the Medical Society of the State of Pennsylvania; served during the World War; aged 46; died, May 18, of pulmonary tuberculosis.

Porter Thomas Fleming, Enterprise, Ala.; Louisville (Ky.) Medical College, 1894; member of the Medical Association of the State of Alabama; on the staff of the Coffee County Memorial Hospital; aged 59; died, March 28, of cerebral hemorrhage.

Jesse Wyllis Hassler ⊕ Belmar, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1892; member of the Florida Medical Association; aged 57; died, May 29, at Reading, Pa., following an operation for carcinoma of the pancreas.

Sylvester Edward Donovan ⊕ New Bedford, Mass.; Medical Department of the University of the City of New York, 1894; member of the New England Pediatric Society; on the staff of St. Luke's Hospital, where he died, May 30, of heart disease.

Loyal H. Tillotson, Painesville, Ohio; Homeopathic Hospital College, Cleveland, 1885; member of the Ohio State Medical Association; aged 67; died, March 27, at St. Petersburg, Fla., of progressive bulbar paralysis.

William Henry Axtell ⊕ Bellingham, Wash.; Medical College of Ohio, Cincinnati, 1891; member of the American Proctologic Society; served during the World War; aged 64; died, May 16, of angina pectoris.

James Noyes Lewis, Providence, R. I.; Medical Department of Columbia College, New York, 1874; member of the Rhode Island Medical Society; aged 77; died, May 28, at Ashaway, of heart disease.

Charles Denny Kimball, New York; University and Bellevue Hospital Medical College, New York, 1902; also a dentist; aged 52; died, May 25, at his home in New Rochelle, of pulmonary hemorrhage.

Ira Smith, Commerce, Okla.; University of Arkansas School of Medicine, Little Rock, 1907; member of the Oklahoma State Medical Association; aged 57; died, April 30, at a hospital in St. Louis.

William Bruce Macbean ⊕ Yonkers, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1903; aged 44; died suddenly, May 26, of angina pectoris and chronic nephritis.

John Howard Payne, Boston; Boston University School of Medicine, 1879; emeritus professor of ophthalmology at his alma mater; aged 72; died, May 29, of heart disease.

Newman T. B. Nobles, Cleveland Heights, Ohio; Cleveland University of Medicine and Surgery, 1896; aged 53; died, May 22, of embolism, following an operation on the gallbladder.

Charles Cincinnatus Henry, Brooklyn; Long Island College Hospital, Brooklyn, 1883; aged 78; died suddenly, May 16, at Baltimore, of skull fracture received in an accident.

William W. Baker, Washington, D. C.; Howard University School of Medicine, Washington, 1885; aged 79; died, May 16, at the Sibley Hospital, of injuries received in an automobile accident.

Thomas M. McIlvaine, Peoria, Ill.; Rush Medical College, Chicago, 1881; for many years a member of the school board; aged 73; died, May 17, at the Proctor Hospital, of pneumonia.

Walter Edwin Tiffin, Detroit; Detroit College of Medicine and Surgery, 1894; member of the Michigan State Medical Association; aged 60; died, May 23, of cardiorenal disease.

John J. McGlade ⊕ New York; Cornell University Medical College, New York, 1905; aged 44; was drowned, May 22, in the Peconic Bay, following an explosion on his launch.

Percy Lott De Nyse ⊕ Richmond Hill, N. Y.; New York Homeopathic Medical College and Flower Hospital, New York, 1909; aged 44; died, May 20, of heart disease.

Hubert E. Zilisch ⊕ Milwaukee; Marquette University School of Medicine, Milwaukee, 1923; aged 38; died, February 2, at St. Mary's Hospital, of nephritis.

Harold Bruce Boring ⊕ Denver; Jefferson Medical College of Philadelphia, 1912; aged 40; died, May 13, at St. Luke's Hospital, of cerebral hemorrhage.

Rosamond Louise Cox, San Francisco; University of California Medical School, San Francisco, 1888; aged 70; died, June 5, of cerebral hemorrhage.

Charles B. Lenox, Ashland City, Tenn.; Vanderbilt University School of Medicine, Nashville, 1893; aged 60; died, May 18, of chronic nephritis.

Albion King Parris Harvey, Livermore Falls, Maine; Chicago Homeopathic Medical College, 1888; aged 72; died, May 26, of heart disease.

John Stonewall Dunn, Brooklyn; Memphis (Tenn.) Hospital Medical College, 1883; aged 65; died, May 23, of bronchopneumonia.

August Horn ⊕ Baltimore; University of Maryland School of Medicine, Baltimore, 1888; aged 58; died suddenly, May 31, of angina pectoris.

Frederic F. Seville ⊕ Chicago; University of Illinois College of Medicine, Chicago, 1895; aged 60; died, June 4, of lobar pneumonia.

David Hall Courtney, Morgantown, W. Va.; Jefferson Medical College of Philadelphia, 1886; aged 67; died, May 27, of heart disease.

John Bunyan Herbert, Monmouth, Ill.; Hahnemann Medical College and Hospital, Chicago, 1872; aged 74; died, May 19, of myocarditis.

Thomas Darling, Gresham, Ore.; Detroit College of Medicine and Surgery, 1889; aged 77; died, May 12, of valvular heart disease.

Clarence E. Monroe, Toledo, Ohio; Starling Medical College, Columbus, 1888; aged 71; died, May 15, of cerebral hemorrhage.

Charles Edwin Barnes, Omaha; College of Physicians and Surgeons, Chicago, 1903; aged 46; died, May 20, of diabetes mellitus.

Peter B. Dick, Kennard, Ind.; Eclectic Medical Institute, Cincinnati, 1874; aged 89; died, May 18, following a long illness.

J. E. Mumford, Pleasant Hill, La.; Louisville (Ky.) Medical College, 1875; aged 74; died, May 17, of angina pectoris.

Samuel P. Swearingen, Pasadena, Calif.; Columbus (Ohio) Medical College, 1883; aged 74; died, May 12, of influenza.

Casper L. Bacon, Muncie, Ind.; Cleveland Medical College, 1896; aged 73; died, May 13, of myocarditis.

CORRECTION

Dr. Maurice Rosenberg Is Not Dead.—Based on information from the superintendent of the hospital in which he was reported to have died, an erroneous notice of the death of Dr. Maurice Rosenberg was published in The Journal, March 26. Dr. Rosenberg writes that he is very much alive, hale and hearty, and not a victim of diabetes, of which he is reported to have died.

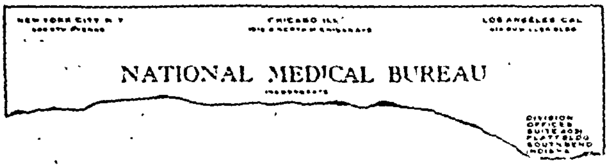
The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

NATIONAL MEDICAL BUREAU, INC.

Physicians are being circularized by a concern having the somewhat imposing name, National Medical Bureau, Inc. The letterhead of this concern carries with it the idea that it is a nation-wide organization having offices in New York City, Chicago and Los Angeles, with a "Division Office" at South Bend, Indiana.

The circular letter which the National Medical Bureau, Inc., sends to a physician states that it is about to appoint a physician in his locality to care for its members. It explains that the appointee would receive "50 per cent of the monthly membership fees in payment for his services," and in addition, "all of the regular revenue he normally derives from his medicines, drugs, medical supplies, and surgical operations." As a further inducement to apply for the appointment, the physician is told that, if selected, he was "automatically made the family physician in more than 500 homes of the city," whereby he could quickly build a practice that normally would take from ten to twenty years. The circular letter stated, further, that the doctor's "monthly checks average $250."



NEW YORK CITY N Y

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NATIONAL MEDICAL BUREAU

DIVISION
OFFICES

These statements, if they mean anything, mean that the physician who signs up with the National Medical Bureau practically agrees to take care of 500 families for $250 a month, or at the rate of 50 cents a month ($6 a year) per family. Doubtless the medical service that such families would get would be in keeping with the amount paid the physician.

In order to qualify for the post of treating families at 50 cents a month, the National Medical Bureau outlines the requirements for appointment. These include:

1. Regularly kept office hours.
2. Maintaining neat, easily accessible offices.
3. The necessary instruments and equipment for surgical work.
4. The assurance that the physician would not charge excessive fees for services not covered by the membership.

As a further inducement, the physician is told that the "formal" mention of his name by the National Medical Bureau is a method of "indirect advertising" that "has a tremendous value."

Because the medical profession has been circularized, a letter was written to the National Medical Bureau at its Chicago address, asking certain pertinent questions, answers to which would permit inquiries from the medical profession to be answered intelligently. Specifically it was asked: Who are the incorporators of the *National Medical Bureau, Inc.?* Who are the officers? What is the character of the service that the National Medical Bureau, Inc., has to sell?

The letter, while sent to the Chicago office, was answered from South Bend and signed "W. Donald Dunkle, Division Director." Mr. Dunkle stated that a Mr. A. M. Nadel, who was out of the city, handled all the correspondence and that on his return, Mr. Nadel would be glad to answer any and all questions. A week later, a letter came from South Bend, signed "A M. Nadel, Division Director." Mr. Nadel, instead of answering "any and all questions," ignored the request for information regarding the incorporators and stated that the personnel of the board of directors had not been settled, all business being conducted by him.

Mr. Nadel was again written to and told that his letter threw but little light on a subject that was of peculiar interest to the medical profession. He was again requested to give the names of the incorporators, and attention was also called to the fact that, while the stationery of the National Medical Bureau gives the impression that the concern has offices in New York City, Chicago and Los Angeles, as well as South Bend, Indiana, all business seems to be done from South Bend. Mr. Nadel was asked for the names of the representatives in New York City, Chicago and Los Angeles, and also for the names of the individuals behind the National Medical Bureau.

After waiting another week, Mr. Nadel replied that the names of the incorporators were "of little or no importance" to the medical profession, and that the National Medical Bureau had not "seen fit to divulge" any of what he described as its "confidential information." He stated, further, that the personnel of the board of directors was still not settled, and that while they had New York City, Chicago and Los Angeles addresses, their entire activity was being conducted from South Bend, Indiana.

A letter was addressed to the Secretary of State of Indiana, stating that the National Medical Bureau, Inc., was doing business at South Bend and asking for the names of the incorporators. A reply was received from the Department of State declaring that the corporation division had no record of the National Medical Bureau, Inc., either as a domestic corporation which had filed articles of incorporation in Indiana, or as a corporation from some other state admitted to do business in Indiana. This may explain Mr. Nadel's airy dismissal of The Journal's request for information regarding the incorporators as a matter "of little or no importance."

Correspondence

A TEST PROCEDURE FOR THE EASY DIAGNOSIS OF EPIGASTRIC HERNIA

To the Editor:—Epigastric hernia is more common than the meager references to it would lead one to suppose. The reason is failure in diagnosis; for unless one is particularly on the lookout for it, one can easily miss it and attribute the symptoms to something totally different. Not every epigastric hernia will necessarily produce symptoms, but a small one may cause a wide variety simulating the condition set forth by Friedenwald and Morrison (The Journal, Oct. 30, 1926, p. 1466).

During the last three years I have seen about a score of such cases. The diagnosis has been made in almost every case by a certain procedure of palpation and, if indicated, confirmed by laboratory and roentgen-ray tests, which, of course, were negative. A clue to the condition may often be obtained from the history, especially when the symptoms are associated with pain which has no relation to food ingestion. The onset of an acute attack may be sudden, and often starts with some bending or twisting movement of the body. The character of the pain is frequently described as dragging—as if the "spine were being pulled forward into the stomach"—making it difficult for the patient to assume the upright posture in comfort. The severity of the attack may be anything from the agony of a gallstone colic to a dull aching pain. Associated with this there may be nausea and vomiting, but there is always a tenderness in the region of the hernia. Careful palpation, however. reveals the tenderness to be more superficial than it would be in any pathologic gastric or gallbladder condition, deep pressure being no more uncomfortable than superficial.

The diagnostic procedure which is invaluable to a correct diagnosis consists in causing a divarication of the abdominal rectus muscles with the patient supine, through the strain of lifting the head and shoulders off the table. With the abdominal wall relaxed, it is a matter of extreme delicacy to palpate adequately a small protrusion or hernia in the linea alba or semilunares, and as this relaxation is the usual status aimed at in any abdominal physical examination, it accounts for the frequency with which this condition is missed. When the abdominal wall is put on a strain, there will usually be seen in the average subject a shallow sulcus between the two rectus muscles, and if the finger is run down this sulcus the floor may readily be palpated for any small protrusions or depressions. When the patient is caused to cough, an impulse may or may not be elicited at one of these points. In some cases, however, there is a definite weakness of the fascial union of the recti, and then these muscles will widely diverge; instead of a shallow sulcus there will appear quite a deep wide groove and in extreme cases an actual gaping, through which the abdominal contents will protrude, causing a regular bulging which can be palpated, caused to receive an impulse through coughing, and returned to the abdominal cavity by manipulation. Indeed, I saw one such case in which, by the ordinary method of abdominal examination with the walls relaxed, no clue was obtained as to the condition, but when the patient strained to lift himself from the table a large bulging immediately appeared between the widely gaping rectus muscles which could be seen across the room. The diagnosis was immediately obvious. Since then I have used this procedure in every abdominal examination and by this means have been able to make a diagnosis of many epigastric hernias which I feel sure I would never have otherwise suspected.

The average man in general practice has doubtless seen several patients with gastric symptoms of indeterminate origin, who have drifted around from physician to physician, have been dosed with bismuth subnitrate and sodium bicarbonate, dieted and often hospitalized, but still have not been "cured." At last, through sheer lack of a better diagnosis, they are dubbed neurasthenics, and automatically any real interest in the case ceases. It is in precisely this class of unfortunates that the possibility of a small epigastric hernia should be considered, and I feel sure that a certain percentage will yield a positive diagnosis if submitted to the diagnostic procedure mentioned. Incidentally, ice to the epigastrium will usually relieve the pain of an acute attack.

Horace F. W. Warden, M.R.C.S., and L.R.C.P. (Eng.), Detroit.

POSSIBLE ARACHNIDISM

To the Editor:—The case reported by Dr. George L. Carrington (The Journal, April 30, p. 1395) as "Bilateral Diaphragmatic Pleurisy Simulating Perforated Gastric Ulcer" appears so typical of arachnidism that this diagnosis has been made independently by a number of physicians. Comparison with the description of arachnidism (The Journal, June 19, 1926, p. 1894) leaves little doubt as to the identity of the condition.

The history of a spider bite in a toilet followed in less than two hours by severe pains in the back and epigastrium, rapidly increasing in severity to the point of writhing and groaning from the intensity of the pain, with a feeling of impending death, vomiting, a rigid, boardlike abdomen, but without localized tenderness or point pain, a leukocytosis developing after several hours, a trace of albumin in the urine, and no response to large doses of morphine and codeine, occurring in a district like North Carolina (or any of our Southern states) where *Latrodectus mactans* is common, leaves little lacking for a diagnosis of spider bite poisoning.

Even the laparotomy with negative results may be considered part of the picture of arachnidism, as such operations have been performed in quite a number of cases which were later shown to have been instances of arachnidism.

The first recorded case of arachnidism in the United States was described by Hopton (*New York M. J.* **2**:297, 1829) nearly a hundred years ago, from the same state, North Carolina, and the first recorded death ascribed to spider bite poisoning was described by Dick in a letter in *Insect Life* (**1**:204 [Jan.] 1889) from the same neighborhood.

Emil Bogen, M.D., Cincinnati.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THALLIUM ACETATE AS A DEPILATORY

To the Editor:—Do you think that 8 grains of thallium acetate to an ounce of cold cream, containing some zinc oxide, rubbed on the skin to destroy hair would be absorbed by the skin enough to cause falling of the hair on the head or elsewhere? Do you know of anything except electricity that will permanently destroy hair? Please omit name.

M.D.

Answer.—In all probability, thallium acetate in an ointment will not cause falling of the hair when applied locally. If it will do so, the internal use of the drug can be avoided. There are other methods of destroying hair beside electrolysis, but *no other that is safe.*

"APOCACTIN" AND "PASCONIA" MERRELL

To the Editor:—I have received a letter from the William S. Merrell Company suggesting that I consult the firm's catalogue for "the particular kind of remedial agents for the different pathologic conditions met in daily practice." As an illustration of the helpful (?) advice that may be had from a perusal of the catalogue, three products are mentioned: "Apocactin," "a combination of drugs you don't often encounter"; "an efficient, nontoxic coagulant, Fibrogen"; and "Pasconia, a sedative and stabilizer in the erratic action of the 'nervous heart.'" I am not interested in the coagulant for the reason that it has not been admitted to New and Nonofficial Remedies along with similar preparations made by other firms. I am not much interested in "Apocactin" and "Pasconia" either, for reference to the catalogue shows that they belong to the genus "shotgun proprietary specialty" whose very complexity is sufficient to condemn them. However, I have become curious about the drugs that are said to be contained in them. They are not included in Useful Drugs or even in the pharmacopeia. Will you tell me something about them? Are they new drugs which have been recently discovered? According to the catalogue, "Each 10 minims [of Apocactin] . . . . represents F. E. Crataegus 2½ mins., F. E. Cactus 1 min., F. E. Apocynum 1-5 min., F. E. Avena Sativa 2 mins., F. E. Collinsonia 2 mins." For Pasconia, the following statement of composition is offered: "Each fluidounce represents: Passiflora Incarnata, green drug, 120 gr.; Avena Sativa 120 gr.; Collinsonia, green drug, 24 gr. In a suitable cordial."

H. T. P., M.D., Chicago.

Answer.—The drugs that make up "Apocactin" and "Pasconia" are not to be found either in Useful Drugs or in the United States Pharmacopeia. Some are not even included in the National Formulary, which aims to include preparations of drugs which are supposed to have any usefulness at all. All belong to that larger and ever growing collection of drugs that have been discarded because they were found to be inert or inferior to other drugs having the same action.

The following is the estimate of the Council on Pharmacy and Chemistry as given in the Epitome of the U. S. Pharmacopeia and National Formulary for those drug constituents of "Apocactin" and "Pasconia" which are included in the National Formulary: Passiflora (passion flower) "Exploited by manufacturers of proprietary medicines for the treatment of insomnia, but probably inert." Avena Sativa (oat) "A constituent of certain nostrums; has no place in the materia medica." Apocynum (Canadian hemp) "Cardiac tonic of digitalis group; unreliable as to rate of absorption."

Those drugs contained in the proprietaries but not even described in the National Formulary are Collinsonia and Crataegus. Collinsonia canadensis (stone root) was included in a report of the Council on Pharmacy and Chemistry, "Some Unimportant Drugs" (Reports Council Pharmacy and Chemistry, 1912, p. 36) which states that for some time the drug had a reputation as an antispasmodic, astringent and diuretic, and that although there appears to be some evidence that this drug possesses some activity, this seems to be such as is better exhibited by other drugs. Crataegus Oxycantha (hawthorn) was proposed for use in cardiac disease many years ago, but has not gained a place in our materia medica.

MILK AND RICKETS — INFANT'S MILK REQUIREMENT

To the Editor:—1. Several well known German pediatricians state that too much milk, whether breast or bottle, if given to an infant for a considerable length of time, plays an important part in the etiology of rickets. What is the explanation? 2. Considerable discussion has been given by many European pediatricians to the amount of whole milk that the healthy infant requires daily. Many state that no infant in the first year requires more than 500 cc. of milk daily, reducing the milk even still further in the second year to 400 cc. and later to 200 cc. daily in normal infants. Kindly explain the advantages derived from these reductions, and state whether such reductions are advisable in healthy infants.

Samuel Grossman, M.D., Taunton, Mass.

Answer.—1. If an infant is kept on breast milk alone for too long a time it commonly develops rickets, probably not so much because of the milk as because of the absence of other foods. That too much breast milk in itself ever causes rickets is certainly doubtful. That prolonged feeding of an excessive amount of cow's milk, especially without an adequate addition of carbohydrates, produces serious disturbances in the infant's mineral metabolism is well known (Czerny's Milchnährschaden). Rickets is a common manifestation of this disturbance. In the production of rickets one must, however, always reckon with the other equally important fundamental factor: the absence of a sufficient amount of ultraviolet rays.

2. There is so much authoritative difference of opinion concerning the optimal amount of milk for the normal infant that this question cannot be answered dogmatically. There is no doubt that many infants, notably older ones, will do better if given less than the conventional quart of milk a day, especially if by so doing they will take other foods with greater readiness. The view that the amount should as a routine be reduced to 500 cc. a day during the first year, and even to 400 and 200 cc. during the second and third years, has only a limited adherence among "European pediatricians" and practically none in this country, except in the isolated case in which there is a resulting lessened appetite for other foods, or an intolerance for milk. The effect on the fecal flora of foods, such as carbohydrates, as compared with that of milk, is probably an important factor. The more recent tendency of the vitaminists and their lay followers to push milk to "a quart or more a day" takes cognizance of only one factor, which is, moreover, adequately represented in other foods, at the expense of the harm that may come from giving too much milk in the individual case. It is probably still a safe rule to offer a child, as a routine, as much of a quart of milk a day as he will take, unless there is some obvious reason for cutting down the amount.

TREATMENT OF HERPES

To the Editor:—I have under my care an unmarried woman, aged 29, who is suffering from recurring attacks of herpes labialis. The lesions have recurred at intervals of about six weeks for the last four or five years, and have occurred in one spot on the upper lip. There are no residuals noted between attacks. Many different local treatments have been tried, but these have been only partially successful, the lesion apparently running its course in spite of treatment. Her general health is good, and foci of infection have been searched for but not found. Would you kindly comment on this case and suggest local and general treatment?

John W. Visher, M.D., Waukesha, Wis.

Answer.—In patients who are subject to herpes almost any sort of a systemic upset is apt to produce it; also innumerable kinds of external irritation, such as driving in the wind, exposure to sunlight, or local irritants to the lips. Thus, in the prevention of herpes, all these things need to be guarded against as far as possible. Often the lips can be made less sensitive by the use of astringent applications. A good application of this sort is zinc sulphate, from 0.25 to 1 Gm. to 120 cc. of water. Begin with the weaker solution; sponge the lips with this once a day. If it does not produce irritation, increase the strength gradually to the point at which it begins to cause slight irritation; then go back to a solution that is just short of producing irritation. Also greasing of the lips with cold cream or with cold cream containing 4 Gm. of zinc oxide and 4 Gm. of calamine to 30 Gm. keeps them in good condition and tends to prevent the trouble.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alabama: Montgomery, July 12-15. Chairman, Dr. S. W. Welch, Montgomery.

Colorado: Denver, July 5. Sec., Dr. David A. Strickler, 1011 Republic Bldg., Denver.

Connecticut: Hartford, July 12-13. Sec., Dr. Robert L. Rowley, 79 Elm Street, Hartford.

District of Columbia: July 12. Sec., Dr. Edgar P. Copeland, Suite 110, 1801 Eye Street, Washington.

Hawaii: Honolulu, July 11-14. Sec., Dr. James A. Morgan, Young Bldg., Honolulu.

Maine: Bangor, July 5-6. Sec., Dr. Adam P. Leighton, Jr., 192 State Street, Portland.

Massachusetts: Boston, July 12-14. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

Missouri: St. Louis, July 13-15. Sec., Dr. James Stewart, Jefferson City.

North Dakota: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.

Oregon: Portland, July 5-7. Sec., Dr. M. K. Hall, 816 Pittock Block, Portland.

Pennsylvania: Philadelphia and Pittsburgh, July 5-9. Dir. Professional Education Bureau, Mr. C. D. Koch, Harrisburg.

Rhode Island: Providence, July 7. Sec., Dr. B. U. Richards, Providence.

South Dakota: Huron, July 19. Dir. Medical Licensure, Dr. H. R. Kenaston, Bonesteel.

Washington: Seattle, July 11. Basic Science Examination, Seattle, July 7-8. Ass't. Director, Mr. George L. Berger, Olympia.

West Virginia: Martinsburg, July 26. Commissioner, Dr. W. T. Henshaw, Charleston.

Oklahoma Reciprocity Meeting

Dr. J. M. Byrum, secretary of the Oklahoma Board of Medical Examiners, reports the meeting held at Oklahoma City, March 8-9, 1927, at which 17 candidates were licensed by reciprocity and 1 by endorsement of his credentials. The following colleges were represented:

College	LICENSED BY RECIPROCITY Year Grad.	Reciprocity with
College of Physicians and Surgeons, Little Rock	(1910)	Arkansas
University of Arkansas School of Medicine	(1904)	Arkansas
George Washington University Medical School	(1925)	Dist. Colum.
Northwestern University Medical School	(1924)	Illinois
Keokuk Medical College, College of Phys. and Surgs.	(1903)	Nebraska
University of Kansas School of Medicine	(1924)	Kansas
Tulane University of Louisiana School of Medicine	(1888)	Texas
University of Minnesota Medical School	(1926)	Minnesota
Barnes Medical College, St. Louis	(1903)	Kansas
St. Louis College of Physicians and Surgeons	(1912)	Arkansas
St. Louis University School of Medicine	(1906)	Illinois
Washington University School of Medicine	(1921)	Missouri
University of Cincinnati College of Medicine	(1924)	Ohio
University of Tennessee College of Medicine	(1916)	Arkansas
	(1925)	Mississippi
Baylor University College of Medicine, Dallas	(1920)	Texas
University of Virginia Department of Medicine	(1918)	Montana

College	ENDORSEMENT OF CREDENTIALS Year Grad.	Endorsement with
University of Virginia Department of Medicine	(1924)	N. B. M. Ex.

District of Columbia January Examination

Dr. Edgar P. Copeland, secretary of the District of Columbia Board of Medical Supervisors, reports the oral, written and practical examination held at Washington, Jan. 11-13, 1927. The examination covered 16 subjects and included 80 questions. An average of 75 per cent was required to pass. Twelve candidates were examined, all of whom passed. Three candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED Year Grad.	Per Cent
Howard University School of Medicine	(1926)	76.2, 81.3, 82.5, 85.8
Georgetown University School of Med.	(1925)	87.2, (1926) 86.2, 86.8
Tulane University of Louisiana School of Medicine	(1917)	86.2
Johns Hopkins University Medical Department	(1924)	80.8
University of Maryland School of Medicine	(1914)	81.8
Meharry Medical College	(1926)	77.4
University of Virginia School of Medicine	(1924)	87.1

College	LICENSED BY RECIPROCITY Year Grad.	Reciprocity with
College of Medical Evangelists	(1921)	California
University of Maryland School of Medicine	(1917)	Maryland
Medical College of Virginia	(1924)	W. Virginia

Book Notices

History of Prostitution Among All the Peoples of the World, From the Most Remote Antiquity to the Present Day. Three volumes. By Paul LaCroix, Member of Many Academies and Learned Societies French and Foreign. Translated from the original French by Samuel Putnam. Cloth. Price, $36 per set. Pp. 1749. Chicago: Pascal Covici, 1926.

The author, who was a French journalist, reveals in three large volumes, translated by an American journalist, his conception of the history of prostitution from the earliest times to the end of the seventeenth century. The early history is taken from allusions in the classical writings of Greece and Rome, the latter discussions based as much on romance as on history of the middle ages. Like many other French writers, LaCroix is passionate and has a flair for the romantic. Of particular interest to the physician is that section of the second volume which deals with the introduction of syphilis into Europe and its spread through prostitution to all the peoples of the world. LaCroix chooses to accept the doctrine that syphilis was identical with the plagues of biblical times, perhaps something in the nature of a new exacerbation. He discounts completely the conception that it may have been introduced into Europe by the returning sailors of the Columbian voyages. The volumes are beautifully printed in a limited edition, and constitute a reference work as well as the means of passing many hours in interesting reading. They are, however, suited only to those whose work takes them especially in these fields, and who will be able to view the pronouncements in proper perspective.

Symptom Diagnosis, Regional and General. By Wilfred M. Barton, A.M., M.D., F.A.C.P., Associate Professor of Medicine, Medical Department of Georgetown University, and Wallace M. Yater, A.B., M.D., Fellow in Medicine, Mayo Foundation, Rochester. Cloth. Price, $10. Pp. 851. New York: D. Appleton & Company, 1927.

This volume has been prepared by the authors as an immediate aid to the puzzled physician in arriving at a diagnosis of disease. Indeed, the suggestion is made in the preface that the book is to be used as a quick reference while the patient is being prepared for examination or while he is dressing after the examination. It is arranged with special reference to the regions of the body and to the symptoms associated with those regions. For example, the single symptom "headache" occupies the first twelve pages of the book; it is discussed with relation to the portion of the head concerned and the possible disease conditions that might produce such a headache. The work is not readable in the ordinary sense of that term; it is strictly a work of reference, largely in outline form. It is not so much a work of diagnosis as of differential diagnosis, serving largely to suggest to the user the things that he may have overlooked.

Traité de physiologie normale et pathologique. Publié sous la direction G.-H. Roger, professeur de physiologie à la Faculté de médecine de Paris, et Léon Binet, professeur agrégé de physiologie à la Faculté de médecine de Paris. Tome XI. Reproduction et croissance. Par. M. M. Léon Binet, H. Busquet, et autres. Cloth. Price, 65 francs. Pp. 496, with illustrations. Paris: Masson & Cie, 1927.

This is a composite production containing chapters on: histogenesis of the sex cells by Champy; sex physiology of the male by Busquet; sex physiology of the female by Vignes; secondary sex characters by Pezard; physiology of pregnancy by Vignes; physiology of the new-born by Binet; physiology of lactation by Porcher; histology of growth by Champy; physiology of growth by Champy and Binet; heredity by Binet, and teratology by Rabaud. As in similar monographs by several authors, the chapters have unequal value; the monograph as a whole is reliable, helpful and fairly comprehensive. The chapters by Dr. Vignes are particularly excellent. Dr. Pezard, who writes on the secondary sex characters, has done much experimental work on the physiology of sex and sex characters, particularly among birds. It is therefore surprising to find that on many points this chapter is not down to date. Dr. Pezard seems unfamiliar with the recent important work in this field by Drs. Moore and Oslund in this country. The other chapters contain valuable references to the world literature on the specific points under discussion. This is volume XI of a large work on normal and pathologic physiology under the editorship of Drs. Rogers and Binet of the Paris Faculty of Medicine. The completed series will constitute a valuable work for reference.

Black's Medical Cyclopedia. By John D. Comrie, M.A., B.Sc., M.D., Lecturer on Practice of Medicine in the School of the Royal College at Edinburgh. Eighth edition. Cloth. Price, $6. Pp. 998, with 507 illustrations. New York: Macmillan Company, 1926.

This volume, now in its eighth edition, has sold more than 60,000 copies. It is an a-b-c guide to medical knowledge, a sort of first aid to the physician who needs ready reference. While it is not a complete work in the sense that some of the larger reference handbooks are, it is much more than a dictionary.

Social Adjustment. By Robert Cloutman Dexter, Ph.D., Professor of Social and Political Science, Skidmore College. Cloth. Price, $3.50. Pp. 424. New York: Alfred A. Knopf, 1927.

This volume is an attempt to answer the greatest question of all times; namely, why people go wrong. The answer, as given in the first chapter, is apparently that most of us have little knowledge as to how we should conduct ourselves toward our neighbors, or of the importance of the lives of others in controlling our own. Poverty, it is clear, is one of the greatest causes of dependency and is the result not only of economic factors but also of political, social, religious and similar causes. Dr. Dexter is convinced that private relief agencies have established a system by which public relief agencies will in the future take care of the indigent and the dependent. Much of the volume is devoted to the newer efforts to give the child a proper opportunity to develop along the most suitable lines. A special chapter deals with the problems of old age; others with disease, particularly such as can be controlled by the social scheme. The book is beautifully printed. It is written in a straightforward, narrative style, and is, among all the sociological works of modern times, one of the most readable. An extensive bibliography provides reference to periodic literature, to national organizations in the field of public welfare, and to similar topics.

Manual of Clinical and Laboratory Technic. By Hiram B. Weiss, A.B., M.D., Assistant Professor of Medicine, College of Medicine, University of Cincinnati, and Raphael Isaacs, A.M., M.D., Instructor in Medicine, Harvard Medical School. Third edition. Cloth. Price, $1.25. Pp. 78, with illustrations. Cincinnati: Cincinnati General Hospital, 1927.

This is another of the many guides prepared for the hospital intern in conducting his work. It begins with an outline for the taking of an ordinary history, and follows with the special history required for neurologic examination. The succeeding sections provide the technics for the laboratory tests associated with body fluids and for functional tests related to various organs. There are also directions for paracentesis, intravenous therapy, skin tests, blood grouping and similar topics, a table of normals in blood chemistry, and of abbreviations useful in recording observations. A section entitled "Therapeutic Measures" records briefly some specimen diets, and other tabulations provide material for estimation of calories and other factors associated with food. The material is practical and well suited to the purpose for which it was prepared.

Food, Nutrition and Health. By E. V. McCollum, Ph.D., Sc.D., Professor of Chemical Hygiene, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, and Nina Simmonds, Sc.D. (Hygiene), Associate Professor of Chemical Hygiene, School of Hygiene and Public Health, Johns Hopkins University, Baltimore. Cloth. Price, $1.50. Pp. 143. Baltimore, 1925.

This booklet, written primarily for the general public, gives in simple form the fundamental facts that every person ought to have relative to the human diet. It tells what is actually known concerning the vitamins A to D; it points out the importance of mineral salts and of proteins, carbohydrates and fats. It discusses foods of vegetable and animal origin, and the general question of hygiene of the digestive tract. Several chapters concern scientific reduction of weight, and the book concludes with a system of diet for promoting health, accompanied by numerous suggestive dietaries. The language throughout is simple, the discussions informative and interesting, making the book one that should appeal to every reader, lay or medical. Indeed, one might wish that all physicians were fully conversant with the points covered by this volume.

Die Zuckerkrankheit und ihre Behandlung. Von Dr. C. von Noorden, Geh. Medizinalrat-Professor an der Universitat Frankfurt a. M., und Dr. Isaac, Professor an der Universität Frankfurt a. M. Eighth edition. Paper. Price, 46.50 marks. Pp. 627, with 30 illustrations. Berlin: Julius Springer, 1927.

Ever since the first "von Noorden" appeared, successive editions have marked the progress of diabetes mellitus. No better evidence of the extent of this progress can be obtained than by a comparison of the 438 pages of the sixth edition of 1912 with the 627 pages of the present volume. Although the general form of the two volumes is the same, the division of discussions shows the effect of the discovery of insulin on all phases of the subject. The theory of the disease, the pathology, the chemistry are interwoven with details of treatment into an encyclopedic whole too massive to grasp except on repeated readings. To review an encyclopedia is a difficult task; one knows that the von Noorden first volume was a real contribution to diabetes; and one notes that the present edition has carried the subject well up to the last minute. The references to the literature are particularly gratifying, since they show a keen appreciation of the real contributions made by investigations in Canada and the United States to the study of this fascinating disease.

Immunity in Syphilis. By Alan M. Chesney, Johns Hopkins Medical School. Cloth. Price, $2.50. Pp. 85. Baltimore: Williams & Wilkins Company, 1927.

The very title of this monograph brings to mind classic controversy. Is the rarity of a second attack of syphilis due to acquired immunity or to incomplete cure of the original infection? What is the nature of the so-called antibodies in syphilis? These and other questions relating to syphilis in man as well as in monkeys and rabbits are discussed in a critical and readable manner. The author is well known by his extensive experiments in immunity in syphilis carried out in collaboration with associates at the Johns Hopkins Medical School, and he is especially fitted to discuss this subject. The volume combines a brief summary of the old views and an extended summary of modern opinion, based on recent investigations, and should be of great interest to students of syphilology.

Anatomical Texts of the Earlier Middle Ages. A Study in the Transmission of Culture with a Revised Latin Text of Anatomia Cophonis and Translations of Four Texts. By George W. Corner, M D., Professor of Anatomy in the University of Rochester. Paper. Pp. 112. Washington: Carnegie Institution of Washington, 1927.

Dr. George W. Corner has prepared this work with the guidance of Dr. and Mrs. Charles Singer, M. Wickersheimer, and others recognized as leaders in the field of medical history. He carries the study of anatomy from the period of the school of Salernum through the twelfth and thirteenth centuries, quoting repeatedly from many little known texts and citing numerous examples of the manner in which modern anatomy became a science. A large portion of the book is devoted to the anatomies of Nicolai and Ricardi Anglici.

Atlas of the History of Medicine—Anatomy. By Dr. J. G. de Lint, Lecturer on the History of Medicine at the University at Leiden. With a foreword by Charles Singer. Cloth. Price, $6. Pp. 96, with 199 illustrations. New York: Paul B. Hoeber, 1926.

In this work the author provides a collection of a series of descriptive paintings and portraits illustrating the history of anatomy from the earliest times to the nineteenth century. Accompanying each of the illustrations is a brief text, including a biographic note of the individual concerned, as well as the material illustrated. The book is in every sense a contribution to the subject of illustrations as related to the growth of medical science.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

Fortschritte der naturwissenschaftlichen Forschung. Herausgegeben von Prof. Dr. Emil Abderhalden. Band XII. Heft 4. Die Wirkungsweise abgestufter Keimdrüsenschädigung. Eine experimentelle Studie zur Frage der endokrinen Sexualfunktion. Von med. Dr. Heinrich Viktor Klein. Paper. Price, 12 marks. Pp. 378, with 6 illustrations. Berlin: Urban & Schwarzenberg, 1927.

Experimental studies tending to disprove most of the Steinach claims.

Diseases of the Digestive Organs with Special Reference to Their Diagnosis and Treatment. By Charles D. Aaron, Sc.D., M.D., F.A.C.P., Professor of Gastro-Enterology and Dietetics in the Detroit College of Medicine and Surgery. Fourth edition. Cloth. Price, $11. Pp. 927, with 257 illustrations. Philadelphia: Lea & Febiger, 1927.

New edition with special revision of sections on liver, on roentgen ray and many other topics.

Practical Gastroscopy. By Jean Rachet, M.D., Assistant to the Hôpital St. Antoine, Paris. Authorized translation by Fred F. Imianitoff, D.S.C., B.A., M.R.C.S., Assistant to the Gynecological Research Department, Institute of Anatomy, Brussels. Cloth. Price, $5.50. Pp. 148, with 60 illustrations. New York: William Wood & Company, 1927.

Well illustrated monograph giving special technic and values in diagnosis.

A Manual of Gynecology. By John Osborn Polak, M.Sc., M.D., F.A.C.S., Professor of Obstetrics and Gynecology, Long Island College Hospital. Third edition. Cloth. Price, $5. Pp. 402, with 157 illustrations. Philadelphia: Lea & Febiger, 1927.

New edition of practical manual with references to newer literature.

Urinary Surgery. A Handbook for the General Practitioner. By William Knox Irwin, M.D., F.R.C.S.E., Surgeon to Out-Patients, St. Paul's for Genito-Urinary Diseases, London. Second edition. Cloth. Price, $4. Pp. 271. New York: William Wood & Company, 1927.

Outline of surgical technic in urology without illustrations.

Adapted Group Gymnastics. By Lillian Curtis Drew, Director of Department of Corrective Gymnastics, Central Branch, Y. W. C. A., New York City. Cloth. Price, $1.75. Pp. 150, with illustrations. Philadelphia: Lea & Febiger, 1927.

Well presented outline for teachers of gymnastics.

Dudley Allen Sargent: An Autobiography. Edited by Ledyard W. Sargent. With an introduction by R. Tait McKenzie, M.D. Cloth. Price, $2. Pp. 221, with portrait. Philadelphia: Lea & Febiger, 1927.

Personal record of an American leader in physical education.

La vacunación contra tifoidea: Conferencia pronunciada en los salones de la junta nacional de sanidad y beneficencia. Por. Dr. J. A. Lopez del Valle. Paper. Pp. 41. Havana, 1926.

Exposição de motivos sobre o problema da prophylaxia da lepra no estado de São-Paulo. Por G. H. de Paula Souza. Paper. Pp. 115, with illustrations. São Paulo, 1926.

Organisation et hygiène sociales: Essai d'hominiculture. Par Jules Amar, professeur de physiologie du travail Paper. Pp. 692, with illustrations. Paris: Dunod, 1927.

Report on the Health of the Army for the Year 1925. Volume LXI. Paper. Price, 3s. 6d. net. Pp. 152. London: His Majesty's Stationery Office, 1927.

Inyecciones subcutaneas de oxigeno. Por el Dr. Adan Cuadra, profesor de pediatría de la escuela de medicina de Granada. Paper. Pp. 45. Granada, 1927.

I tumori della ghiandola carotidea. Per Dott. G. Aperlo e Dott. F. Rossi. Paper. Pp. 115, with 15 illustrations. Milan: Francesco Vallardi, 1927.

The American Medical Association of Vienna. Paper. Pp. 248. Vienna, 1927.

Glycogène, adrénaline et insuline. Par M. Jacot. Paper. Price, 35 fr. Pp. 209. Paris: Masson & Cie, 1926.

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> There are thousands of the best physicians in the country who believe that liquor is not only helpful in the treatment of some diseases but absolutely necessary to the saving of life in some others. These men have a sacred duty. To prohibit them from saving life through fanatic legislation is to commit murder. The murderer in such an instance is the Congress of the United States Even so, some physicians have boldly declared their intention to prescribe liquor when they deem it necessary, regardless of the law.

On the same date the New York *Herald-Tribune* was more restrained but none the less certain that

> The law, as it stands now, prohibits the medical man from giving his best services to his patient. Congress should give the doctor the chance to carry out the Hippocratic oath, which says: "I will follow that system of regimen which, according to my best judgment, I consider best for my patients and abstain from whatever is injurious."

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Philadelphia editors expressed views similar to those just quoted, while the Chicago *Tribune* of May 25 voiced the prevailing attitude of the Middle West:

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> This transparently follows the legal assumption that doctors would make an illegal use of the prescription and release large quantities of liquor for beverage purposes. The medical code of honor is a high one and it governs in most particulars the majority of practicing physicians, but there are prescriptions which satisfy an appetite for stimulants rather than provide medical requirements. The majority of doctors, scrupulous in their practice of medicine, find that their whole profession rests under the legal implication that they must have a dosage given by law, and they resent it, but it is a congenital part of a law which in essence is a denial of judgment and discretion. The Volstead Act assumes that the American people cannot be trusted with their own morals, health, deportment and conduct, being in this respect unique among the supposedly civilized people of the world. It is a part of that to assume that American doctors generally cannot be trusted to prescribe medicine if there is any chance of medicine being used as a beverage.

In the South, the famous old Louisville *Courier-Journal* of May 20 wrote:

> Only the physician is competent to judge whether and how much his patient needs whisky, and it is crass effrontery for Congress or the Anti-Saloon League to usurp his functions. Self-respecting physicians are justly resentful of this usurpation and they would manifest no proper appreciation of their own responsibility if they did not insist on their right and competence to practice their profession and did not rebel against the attempt of any legislative body to practice it for them.

Although other papers through the South were in general accord with the sentiments of the *Courier-Journal*, a note of pessimism was sounded by several of them. This temper was well summarized in these lines from the Lynchburg, Va., *Advance* of May 19:

> As stated, medical opinion is not unanimous upon the question of the value of liquor as a medicine. Congress might take either of the prevailing opinions, act upon it and not be illogical. The attempt to straddle is wrong. Either there should be no restrictions on physicians, as the American Medical Association asserts, or the use of liquor as medicine should be forbidden altogether in conformity with minority but highly intelligent medical opinion.
>
> It is not likely, however, that the law will be changed. Politics rather than logic will rule in the matter.

A closely related attitude to that of complete support of the House of Delegates was whole hearted condemnation of the efforts of the drys. "Mr. Wayne B. Wheeler," said the New York *World* of May 19,

> runs perfectly true to form in his ultimatum to the American Medical Association not to appeal to Congress to remove restrictions on the use of alcohol as medicine. In the first place, he knows more about medicine than the doctors, just as he knows more about ethics than the philosophers, more about human nature than the psychologists and more about the administration of justice than the courts; he is perfectly certain how alcohol should and should not be used to obtain "every therapeutic reaction."

Certain editors took a middle ground, and pointed out that in 1917 the medical profession declared alcohol to be valueless in therapeutics. "But," said the Newark, N. J., *News* of May 20,

> the referendum taken by the journal of the association in 1921, in which more than 31,000 pyhsicians, by 51 to 49 votes in each 100, declared liquor a medical agent of value, had already reversed that 1917 judgment. In the interim the influenza-pneumonia epidemics had shown that in some medical crises alcoholic stimulation of the sick is imperative, far beyond the Volstead Law's homeopathic dosage. In this latest action the doctors properly are not so much concerned with the question whether whisky is a disease specific as with their professional right to practice their calling according to their training and experience.
>
> That the doctors have blood in their eyes as to this business is made apparent by their simultaneous determination to demand control of patent medicines, which are largely alcohol. They make the point that these are illegal, under the law as it stands, wherever the spirit content is as much as one-half of one per cent. While legitimate medical practice is restricted to a driblet, the open door to this sort of flood is a fitting commentary upon the sanity of prohibition enforcement.

An occasional paper was not convinced that experience under the Volstead Law justified freedom in prescribing. The Milwaukee *Journal* of May 22 expressed some distrust:

> Congress has no business telling doctors what quantity of alcohol is sufficient for treatment. But, on the other hand, a doctor has no business prescribing alcohol to an obviously well person. And some doctors unquestionably have done just that.
>
> In some circles liquor scripts seem to have been considered more in the light of their equivalent in legal tender than in the light of their value in the treatment of disease. Men who "wanted to have a little something in the house in case of illness" have been accommodated. Doctors are doing less of this accommodation than formerly, it is understood. They have long since grown weary of the impositions of friends. But the powerful medical associations seemingly have done little to discourage this thing.
>
> The "pint-in-10-days" measure is an unwarranted interference with the conscientious physician who looks upon liquor as a real therapeutic agent. But one cannot be blind to the abuse which led to the writing of the prescription by Dr. Congress.

A corollary of this attitude was that expressed in the New York *Telegram* of May 20:

> The Volstead Act went too far when it sought to control the legitimate practice of medicine. So long as prohibition is the law of the land, however, there is reason in enough regulation to prevent charlatans from abusing their privileges as physicians and becoming in effect bootleggers.

The Wheeling, W. Va., *Register* of May 21, under the title "Doctors Shouldn't Misplace the Blame," distinguished between the authority of Congress and of the Supreme Court:

> To decree that a physician competent to be entrusted with care of the sick may not prescribe for a patient needing stimulation more than one pint of whisky in ten days is quite obviously a foolish use of the statutory power. But it is no part of the duty of the Supreme Court to save this nation from folly. Its function is to pass, not upon the wisdom but upon the constitutionality of laws.

The instances of qualified approval and partial disapproval were few. A slightly larger number were definitely against removal of the restriction. The papers represented in this body of unfavorable opinion include the Mishawaka, Ind., *Enterprise*, May 25; Statesville, N. C., *Landmark*, May 19; Owensburg, Ky., *Messenger*, May 19; Sterling, Ill., *Gazette*, June 1; Clarksville, Texas or Tenn., *Chronicle*, May 18; Bluffton, Ind., *Banner*, May 19. Five papers, from small communities in Indiana, Mississippi and Michigan (Union City, Ind., *Times*, May 26; Rushville, Ind., *Republican*, May 21; Madison, Ind., *Courier*, May 27; Hattiesburg, Miss., *American*, May 26; Battle Creek, Mich., *Enquirer News*, May 23) have apparently reprinted a syndicated article. Thus, the Peoria *Journal* of May 17 concluded its editorial with the two following paragraphs:

> The layman is under no delusion as to "prescription" whisky. He knows that the physician who "prescribes" it is merely using his legal authority to collect $3 for writing his name on a blank furnished by the government. The "patient" would take no greater chances if he paid his money directly to the druggist or to the messenger boy who makes delivery.
>
> If the American Medical Association hopes to denaturize the Volstead act of its hypocrisy, it is undertaking a herculean task. The real law enforcers are opposed to whisky for all purposes—beverage, medicinal and industrial. Opponents of the Volstead act, on the other hand, are fighting it on all grounds. In the meantime, "prescription" whisky, having been a fake from the beginning, can scarcely be raised in honor by an ancient and noble profession.

One wag, on the Nashville, Tenn., *Banner*, is not worried by the controversy. Perhaps the nearness of Appalachian fastnesses has kept him mellow. On May 20 he wrote:

> The members of the American Medical Association in Washington are said to have been considering the matter of liquor behind closed doors. Well, that's the general custom of the country, isn't it?

PRESIDENT COOLIDGE

Next to the liquor question, the press seized most eagerly on the convention address of President Coolidge. The mass of material taken from this address and selected for editorial comment was great; much of it, it seems, was obtained from syndicates. As a general summary, apparently independently written, the Trenton, N. J., *Gazette* of May 19 printed the following, under the title "Medical Values":

> A notable tribute to the physicians of the land was paid by President Coolidge in his address before the American Medical Association. Without giving expression to fulsome praise, the President called attention to the high ethical standards which maintain throughout the profession and which are contributing so markedly to the quest for social perfection.
>
> Here are a few of the professional qualities to which Mr. Coolidge pointed: Service, open-mindedness, heroism, cooperation, tolerance and progressiveness. And as for the altruism of medical men, he declared that they are uniformly willing to serve the interests of human welfare even when such action diminishes the income to be derived from their practice.
>
> The President's observations will commend themselves to thoughtful people everywhere. Members of the medical profession, owing to self-imposed restrictions, usually disdain the plaudits which their services to humanity merit. The general practitioner, as well as the laboratory expert, normally fails to receive the public acclaim which is his just due.
>
> And so, a pleasing element of equity is contained in these remarks of Mr. Coolidge. Indeed, here is a body of scientists which, as the President noted, may well make large contributions to world regeneration "physically, mentally and spiritually, when not force but reason will hold universal sway." In voicing this thought, the White House was speaking for America at large.

The Indianapolis *News* requoted the tributes paid by the President and concluded:

> We know of no other group of men who have deliberately set out to destroy the demand for their services. By preventing illness through public spirited work for sanitation and hygiene among all people they have reduced the scope of their practice. This is in keeping with their vows as men of science and ministers to the needs of the suffering without regard for their own personal welfare. The tribute paid to them and their calling by the President was well deserved. It is felt by every citizen, who has—or should have—a keen sense of obligation to the school which in recent years has added twenty years to his expectation of life.

A syndicated editorial appearing in many newspapers of the Middle West, including the Gary (Ind.) *Post-Tribune*, the Newcastle (Ind.) *Courier*, the Riverdale (Ill.) *Pointer*, and others, concluded:

> Thus the community owes a big debt to its physicians. There are several ways in which we can do something to pay it. Many doctors charge little to people of limited means and that generosity is no doubt abused. If a person can by any possible effort pay his doctor's bill he should certainly do so and work a little harder to avoid being the recipient of this form of charity.
>
> If one could look through the books of the average doctor he would find many accounts due from people who are perfectly able to pay, but fail to do so out of neglect and indifference.

The New York *Sun* emphasized the increasing span of life due to the work of medical science:

> How nobly the doctors have been changing the notions of humanity as to youth and age is shown by the simple fact that Moliere, who died at 51, thought that a man was getting well along in years at 30, an age at which most moderns think themselves rather young to marry.

Comparing the practice of medicine with that of law, to the disadvantage of the latter, the New York *Telegram*, after pointing out the increasing number of laws on the statute books, said:

> It would be much the same if young physicians got busy after graduation inventing new diseases or finding new germs, microbes and bacilli with which to infect the human race, so as to make more business and more money for physicians.
>
> If President Coolidge gets a chance to address the American Bar Association he might render a public service by inviting attention to the noble example set by the medical profession in their advocacy of prevention.

Newspapers everywhere endorsed all the kind sentiments relative to the medical profession expressed by the President, and the Flint (Mich.) *Journal* answered well for them:

> The medical men present knew every fact and every bit of statistics President Coolidge quoted, but this semi-official speech of appreciation, expressing the thanks of the nation for the services of its great army of physicians, must have been cheering to those who carry on the health work day by day, too often with small thanks for their effort.

MEDICAL ECONOMICS

Judging from space used by the newspapers, the public is next most deeply interested in the cost of sickness as presented by President Jackson. Again the syndicated article found favor. One of these entitled "Paying the Doctor," which appeared in several of the large papers in various parts of the country, is printed herewith:

> In this day of tonsils and adenoids, paying the doctor has become one of the greatest problems in the life of the average salaried man.
>
> The American Medical Association has recognized the burden that the wage earner has to bear and its president, Dr. Jabez North Jackson of Kansas City, has just issued an appeal for endowment of hospitals for what he calls the great middle class.
>
> Doctors have three kinds of patients: charity, very rich and those that pay their fees on the instalment plan.
>
> The charity patients receive medical attention free, it being considered humanitarian for the medical men to volunteer their services to public and charity institutions.
>
> The wealthy clients pay fees in keeping with their incomes, thus making up to the physician for the time and expense of caring for his free patients.
>
> Those that pay on the instalment plan are the wage earners, too proud to accept free medical attention, who go into debt and pinch themselves to meet the doctor's bills as well as the bills of the hospitals and the nurses.
>
> Being ill is a rich man's luxury or a poor man's paradise, but for the middle man it is a financial calamity.
>
> Hospital fees have become so great that only a rich man can afford to pay them. The poor man is protected because philanthropists have endowed institutions to provide him with the proper care and attention during illness.

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> It is not likely, however, that the law will be changed. Politics rather than logic will rule in the matter.

A closely related attitude to that of complete support of the House of Delegates was whole hearted condemnation of the efforts of the drys. "Mr. Wayne B. Wheeler," said the New York *World* of May 19,

> runs perfectly true to form in his ultimatum to the American Medical Association not to appeal to Congress to remove restrictions on the use of alcohol as medicine. In the first place, he knows more about medicine than the doctors, just as he knows more about ethics than the philosophers, more about human nature than the psychologists and more about the administration of justice than the courts; he is perfectly certain how alcohol should and should not be used to obtain "every therapeutic reaction."

Certain editors took a middle ground, and pointed out that in 1917 the medical profession declared alcohol to be valueless in therapeutics. "But," said the Newark, N. J., *News* of May 20,

> the referendum taken by the journal of the association in 1921, in which more than 31,000 pyhsicians, by 51 to 49 votes in each 100, declared liquor a medical agent of value, had already reversed that 1917 judgment. In the interim the influenza-pneumonia epidemics had shown that in some medical crises alcoholic stimulation of the sick is imperative, far beyond the Volstead Law's homeopathic dosage. In this latest action the doctors properly are not so much concerned with the question whether whisky is a disease specific as with their professional right to practice their calling according to their training and experience.
>
> That the doctors have blood in their eyes as to this business is made apparent by their simultaneous determination to demand control of patent medicines, which are largely alcohol. They make the point that these are illegal, under the law as it stands, wherever the spirit content is as much as one-half of one per cent. While legitimate medical practice is restricted to a driblet, the open door to this sort of flood is a fitting commentary upon the sanity of prohibition enforcement.

An occasional paper was not convinced that experience under the Volstead Law justified freedom in prescribing. The Milwaukee *Journal* of May 22 expressed some distrust:

> Congress has no business telling doctors what quantity of alcohol is sufficient for treatment. But, on the other hand, a doctor has no business prescribing alcohol to an obviously well person. And some doctors unquestionably have done just that.
>
> In some circles liquor scripts seem to have been considered more in the light of their equivalent in legal tender than in the light of their value in the treatment of disease. Men who "wanted to have a little something in the house in case of illness" have been accommodated. Doctors are doing less of this accommodation than formerly, it is understood. They have long since grown weary of the impositions of friends. But the powerful medical associations seemingly have done little to discourage this thing.
>
> The "pint-in-10-days" measure is an unwarranted interference with the conscientious physician who looks upon liquor as a real therapeutic agent. But one cannot be blind to the abuse which led to the writing of the prescription by Dr. Congress.

A corollary of this attitude was that expressed in the New York *Telegram* of May 20

The Volstead Act went too far when it sought to control the legitimate practice of medicine So long as prohibition is the law of the land, however, there is reason in enough regulation to prevent charlatans from abusing their privileges as physicians and becoming in effect, bootleggers

The Wheeling, W Va, *Register* of May 21 under the title "Doctors Shouldn't Misplace the Blame" distinguished between the authority of Congress and of the Supreme Court

To decree that a physician competent to be entrusted with care of the sick may not prescribe for a patient needing stimulation more than one pint of whisky in ten days is quite obviously a foolish use of the statutory power But it is no part of the duty of the Supreme Court to save this nation from folly Its function is to pass not upon the wisdom but upon the constitutionality of laws

The instances of qualified approval and partial disapproval were few A slightly larger number were definitely against removal of the restriction The papers represented in this body of unfavorable opinion include the Mishawaka Ind, *Enterprise*, May 25; Statesville, N C, *Landmark* May 19, Owensburg, Ky, *Messenger* May 19, Sterling Ill, *Gazette*, June 1, Clarksville Texas or Tenn, *Chronicle*, May 18, Bluffton, Ind, *Banner* May 19 Five papers, from small communities in Indiana, Mississippi and Michigan (Union City, Ind, *Times* May 26, Rushville, Ind, *Republican*, May 21; Madison, Ind, *Courier* May 27, Hattiesburg Miss, *American*, May 26, Battle Creek, Mich, *Enquirer News* May 23) have apparently reprinted a syndicated article Thus, the Peoria *Journal* of May 17 concluded its editorial with the two following paragraphs:

The layman is under no delusion as to "prescription" whisky He knows that the physician who 'prescribes' it is merely using his legal authority to collect $3 for writing his name on a blank furnished by the government The 'patient would take no greater chances if he paid his money directly to the druggist or to the messenger boy who makes delivery

If the American Medical Association hopes to denaturize the Volstead act of its hypocrisy it is undertaking a herculean task The real law enforcers are opposed to whisky for all purposes—beverage medicinal and industrial Opponents of the Volstead act, on the other hand are fighting it on all grounds In the meantime, "prescription whisky having been a fake from the beginning, can scarcely be raised in honor by an ancient and noble profession

One wag, on the Nashville, Tenn, *Banner*, is not worried by the controversy Perhaps the nearness of Appalachian fastnesses has kept him mellow On May 20, he wrote

The members of the American Medical Association in Washington are said to have been considering the matter of liquor behind closed doors Well, that's the general custom of the country, isn't it?

PRESIDENT COOLIDGE

Next to the liquor question, the press seized most eagerly on the convention address of President Coolidge The mass of material taken from this address and selected for editorial comment was great, much of it, it seems, was obtained from syndicates As a general summary, apparently independently written, the Trenton, N J *Gazette* of May 19 printed the following, under the title 'Medical Values"

A notable tribute to the physicians of the land was paid by President Coolidge in his address before the American Medical Association Without giving expression to fulsome praise, the President called attention to the high ethical standards which maintain throughout the profession and which are contributing so markedly to the quest for social perfection

Here are a few of the professional qualities to which Mr Coolidge pointed Service, open mindedness heroism, cooperation tolerance and progressiveness And as for the altruism of medical men he declared that they are uniformly willing to serve the interests of human welfare even when such action diminishes the income to be derived from their practice

The President's observations will commend themselves to thoughtful people everywhere Members of the medical profession, owing to self imposed restrictions, usually disdain the plaudits which their services to humanity merit The general practitioner, as well as the laboratory expert, normally fails to receive the public acclaim which is his just due

And so a pleasing element of equity is contained in these remarks of Mr Coolidge Indeed, here is a body of scientists which, as the President noted may well make large contributions to world regeneration, 'physically, mentally and spiritually, when not force but reason will hold universal sway" In voicing this thought, the White House was speaking for America at large

The Indianapolis *News* requoted the tributes paid by the President and concluded

We know of no other group of men who have deliberately set out to destroy the demand for their services By preventing illness through public spirited work for sanitation and hygiene among all people they have reduced the scope of their practice This is in keeping with their vows as men of science and ministers to the needs of the suffering without regard for their own personal welfare The tribute paid to them and their calling by the President was well deserved It is felt by every citizen who has—or should have—a keen sense of obligation to the school which in recent years has added twenty years to his expectation of life

A syndicated editorial appearing in many newspapers of the Middle West including the Gary (Ind) *Post-Tribune*, the Newcastle (Ind) *Courier*, the Riverdale (Ill) *Pointer*, and others concluded

Thus the community owes a big debt to its physicians There are several ways in which we can do something to pay it Many doctors charge little to people of limited means and that generosity is no doubt abused If a person can by any possible effort pay his doctor's bill he should certainly do so and work a little harder to avoid being the recipient of this form of charity

If one could look through the books of the average doctor he would find many accounts due from people who are perfectly able to pay, but fail to do so out of neglect and indifference

The New York *Sun* emphasized the increasing span of life due to the work of medical science

How nobly the doctors have been changing the notions of humanity as to youth and age is shown by the simple fact that Moliere, who died at 51, thought that a man was getting well along in years at 30 an age at which most moderns think themselves rather young to marry

Comparing the practice of medicine with that of law, to the disadvantage of the latter, the New York *Telegram* after pointing out the increasing number of laws on the statute books, said

It would be much the same if young physicians got busy after graduation inventing new diseases or finding new germs, microbes and bacilli with which to infect the human race, so as to make more business and more money for physicians

If President Coolidge gets a chance to address the American Bar Association he might render a public service by inviting attention to the noble example set by the medical profession in their advocacy of prevention

Newspapers everywhere endorsed all the kind sentiments relative to the medical profession expressed by the President, and the Flint (Mich) *Journal* answered well for them

The medical men present knew every fact and every bit of statistics President Coolidge quoted, but this semi official speech of appreciation, expressing the thanks of the nation for the services of its great army of physicians must have been cheering to those who carry on the health work day by day, too often with small thanks for their effort

MEDICAL ECONOMICS

Judging from space used by the newspapers, the public is next most deeply interested in the cost of sickness as presented by President Jackson Again the syndicated article found favor One of these entitled "Paying the Doctor," which appeared in several of the large papers in various parts of the country, is printed herewith

In this day of tonsils and adenoids, paying the doctor has become one of the greatest problems in the life of the average salaried man

The American Medical Association has recognized the burden that the wage earner has to bear and its president, Dr Jabez North Jackson of Kansas City has just issued an appeal for endowment of hospitals for what he calls the great middle class

Doctors have three kinds of patients charity, very rich and those that pay their fees on the instalment plan

The charity patients receive medical attention free it being considered humanitarian for the medical men to volunteer their services to public and charity institutions

The wealthy clients pay fees in keeping with their incomes, thus making up to the physician for the time and expense of caring for his free patients

Those that pay on the instalment plan are the wage earners too proud to accept free medical attention who go into debt and pinch themselves to meet the doctor's bills as well as the bills of the hospitals and the nurses

Being ill is a rich man's luxury or a poor man's paradise, but for the middle man it is a financial calamity

Hospital fees have become so great that only a rich man can afford to pay them The poor man is protected because philanthropists have endowed institutions to provide him with the proper care and attention during illness

> Only the salaried wage earner has been neglected and he must go to the rich man's hospital, pay the rich man's rates and saddle himself with debt in order to get relief.
>
> Not only this: whenever he pays taxes he is paying for the medical upkeep of the poor, for part of this money is used in keeping up hospitals, clinics and other public health institutions.
>
> Whether you call him a wage earner, or a middle man, he does need help and we are glad to see that the American Medical Association is starting a movement for those who aren't rich or poor enough to afford to get sick.

PUBLICITY

Although the public has complained of the hardship involved in paying for medical service, it has not in general resented the fees imposed. It has, however, resented the reticence of the medical profession. Accordingly, a number of newspapers welcomed the address of President Phillips, on which the *Asheville, N. C., Times* commented as follows:

> Without the least modification of its code against personal publicity, President Wendell C. Phillips of the American Medical Association urges the membership to throw off its mask of reticence and its shrinking attitude toward reasonable publicity concerning public health education. Dr. Phillips asserted that the physician has no right to conceal from the nonmedical public the great body of news of first importance which the doctor can communicate. To carry out the purpose proposed, he recommended that the association organize a department of field activity in public health education.

On the same subject, "Uncle Dudley," writing in the Boston *Globe* of May 18, declared:

> The old tradition was founded upon reason, because the tremendous majority were not sufficiently schooled to understand the theory and practice of healing. The spread of education and of the scientific spirit has created a necessity for a new attitude which will make the physician leader in the quest for health. Part of his task is to let people in on secrets.

COSMETICS AND "PATENT MEDICINES"

Although the Winchester, Va., *Star* of May 23 contained an article entitled "Let Them Paint," the Philadelphia *Ledger* of May 18 stated the general agreement with the attitude of medical men toward cosmetics as follows:

> The resolution pending before the American Medical Association proposing that the federal Pure Food and Drugs Act be extended to cosmetics is offered, according to its proponents, to put an end to the use of poisonous and deleterious applications designed to beautify the skin and remove, restore or change the color of the hair.

The Lynchburg, Va., *News* of May 20 printed a novel interpretation of the Association's fight against "patent medicines." Said this journal:

> It is very likely that in many cases medical preparations containing large quantities of alcohol are intended for beverage consumption.
>
> It would be a very bad idea, however, for Congress to attempt to determine what percentage of alcohol is or is not necessary for a medical preparation. That is quite as wrong as for Congress to fix the amount of spirituous liquors that a physician may prescribe. The fact that the doctors are occupying both sides of the fence cannot escape notice.

The Valdosta, Ga., *Times*, however, believed that the inconsistency lies elsewhere; namely, in the work of the Anti-Saloon League:

> Yet it seems that even this dominating and unbending league can compromise its principles at the demand of expediency. It is highly interesting to find the indignant physicians in convention accuse the Anti-Saloon League of countenancing "intoxicants disguised as patent medicines," now flooding the country, some with alcoholic content up to 25 per cent, because these are "consumed in great quantities" in "many strong dry districts," and much dry support would be alienated by hostile move against these "comforting" liquors in disguise. The sick may suffer, but "dry" drinkers must be served! Though Wayne B. Wheeler virtually accuses the physicians of lying, the medical men are provided with a very pointed "comeback."

Not only is the evidence of public trust in the medical profession pleasant to note, it also is gratifying that the public wishes to be informed about the deliberations of the yearly assembly of medical men. Newspaper space is not easily obtained, and the annual session has never before had so large a share of it.

Purposeful Activity Increases Efficiency.—The children of a school class may work with doubled efficiency simply from learning the significance of the work to their wants, and associating the work with sociability, cheerfulness and achievement.—Thorndike: Educational Psychology **3**:128.

Medicolegal

Making Most of Physician's Appointment by Court

(Meek v. Wheeler, Kelly & Hagny Inv. Co. (Kan.), 251 Pac. R. 184)

The Supreme Court of Kansas says that in this action under the workmen's compensation act error was predicated on the fact that a physician was permitted to testify that he had made an examination of the plaintiff at the direction of the trial court itself, and because the defendant's counsel argued that fact to the jury as one of special significance tending "to give his evidence greater weight than would otherwise be accredited, and to minimize the weight of other physicians and evidence in the case." But this assignment of error lacked merit. There is a provision of statute (revised statutes of Kansas, 44—516) which indicates a legislative belief that expert witnesses called by the respective litigants may possibly be somewhat biased in their views and that the views of a neutral physician called by the court and under no obligation to either litigant might be helpful in ascertaining the truth touching actual or simulated injuries and incapacity in industrial accident cases. The relative amount of credence to be attached to the testimony of any expert witness, whether avowedly partisan, presumably neutral or manifestly disinterested, like the testimony of any other witness, is a fair subject for debate in addressing the jury. In other words, in an action under the workmen's compensation act, it was proper for the trial court to appoint a neutral physician to examine the plaintiff's physical condition, and it was not erroneous for such physician to testify, among other matters, that he had been appointed by the court, nor for counsel to argue to the jury their views touching the weight and credence which might be given to his testimony because of such appointment.

Damages for Mental Anguish Held Suffered by Child

(Illinois Cent. R. Co. et al. v. Williams (Miss.), 110 So. R. 510)

The Supreme Court of Mississippi, division B, says that the plaintiff when 2 years and 8 months of age was injured by the alleged negligence of the defendant railroad company. His skull was fractured on the left side near the top of the head. A surgical operation was performed in which a piece of the skull about 2 inches long and of the width of two fingers was removed. A small particle of brain came out. The child's mother and father testified that his recovery seemed complete, and that he was more robust and apparently in better health than he was before his injury. The only evidence of physical suffering testified to by them was that he was restless at night, and sometimes would put his hand up to his head and say that his head hurt him. The surgeon who performed the operation testified at the trial, which took place a little less than two years after the injury, that the child appeared to be in good physical condition—in fact, that there had been a complete recovery from his injuries. The trial resulted in a judgment for $20,000 damages, which the court holds was excessive and should be reduced to $15,000.

An instruction given the jury told it that, if it found for the plaintiff, in assessing damages it should take into consideration, among other things, "any mental and physical pain and suffering which the testimony may show he has endured or will endure, if any, as the proximate result of the negligence of the defendant." The defendant contended that a child 2 or 3 years of age could not endure mental anguish, and therefore the instruction authorizing as an element of damages mental anguish already endured was error and misleading to the jury, and probably influenced the verdict. The defendant based its argument on the definition of mental anguish given by the Texas court in *Railroad Company* v. *Miller*, 25 Texas Civ. App. 460, 61 S. W. 978. That court held that mental anguish, for which recovery might be had in an action for personal injuries, included not only the mental sensation or pain resulting from the physical injury, but also the purely mental suffering experienced by the injured person in contemplating his crippled condition and brooding over his future prospects The defendant said that the evidence in the instant case showed that the plaintiff was of such tender years and immature mind that he was incapable of contemplating his crippled condition and brooding over his future prospects That was doubtless true, but the instruction in question did not so define mental anguish According to the Texas court, that is only one of the elements of mental anguish Certainly it is true that, regardless of how immature a child is, it is capable of suffering mental pain as the result of physical injury Mental anguish in some degree necessarily follows physical pain A child, though incapable of reasoning, will cry out as the result of physical pain Mental anguish exists whether the child can recognize it and reason about it or not This court thinks that the instruction criticized by the defendant embodied the correct principles of law.

Not Liable for Abscess After Hypodermic Injection

(Sheehan v Strong (Mass), 154 N E R 253)

The Supreme Judicial Court of Massachusetts says that two separate actions in tort were brought by Mrs Sheehan and her husband to recover for injuries alleged to have been received by her at the private hospital of the defendant in consequence of the negligence of a nurse in his employ The woman's family physician had engaged a bed for her in the hospital and arranged with a surgeon to perform a gallbladder operation Three days after the operation an abscess formed on the right thigh of the patient at a place where an injection of solution of pituitary had been made She testified that during the night following the operation, and while the ward she was in was dark, she felt the nurse rub her thigh with some cold substance and then insert a needle into a different spot from where the cold application was made, and that the nurse seemed to be in a hurry in the manner and method of making the injection She testified further that she believed that this injection caused the abscess The question was whether there was any evidence warranting a finding of negligence if it was assumed that the defendant was responsible for the carelessness of the nurse in administering the injection The defendant offered evidence tending to show that the room was well lighted, that the injection was not hurriedly made, that the place where the needle was inserted was properly sterilized, and that the injection in all respects was properly administered Considering the evidence in the light most favorable to the plaintiff, the court is unable to find any evidence that would warrant a finding of negligence There was no evidence that the hypodermic needle used was infected, or that the abscess was due to an infection The surgeon who performed the operation testified that he did not know what caused the abscess, that if the skin had not been properly washed he could not say that it was the cause, but that it might be He testified further that he would not go so far as to say that the abscess was probably caused by failure to wash the skin, that it might have been caused by a condition of the skin of the patient, or that the solution injected might have been unsterile when it came from the manufacturer On cross-examination he said that if the needle was properly sterilized, but the place where it was inserted was not washed or cleaned, it would not necessarily lead him to believe that an abscess would form There was other evidence offered by the plaintiff tendng to show that she had jaundice and diabetes, and that an abscess would be more likely to develop if a person was suffering from the latter disease Although several physicians testified, none were able to express an opinion as to what caused the abscess In these circumstances there was nothing to show that any act or omission of the nurse resulted in the formation of the abscess Its cause was wholly a matter of conjecture and speculation without evidence to support a finding of negligence on the part of the nurse It followed that the defendant's motion for a directed verdict in each case should have been allowed, and exceptions to a denial of the motion must be sustained, besides, judgment might be entered for the defendant

Society Proceedings

COMING MEETINGS

Montana Medical Association of, Missoula, July 13 14 Dr E G Balsam, 222 Hart Albin Building, Billings, Secretary

ASSOCIATION OF AMERICAN PHYSICIANS

Forty Second Annual Meeting held at Atlantic City, N J, May 3 and 4, 1927

(Continued from page 2050)

Cardiac Pain in Rheumatic Fever

Dr Homer F Swift, New York In a study of painful cardiac symptoms in rheumatic fever, two thirds of the patients showed concomitant evidence of cardiac involvement, and one third showed evidence later on Pain in the acute attack was evidence of permanent cardiac injury These studies give indication that when pain does occur the physician should treat the patient as though carditis were present

The Sensibility to Pain of the Pericardium

Dr Joseph A Capps, Chicago There is an impression that pain is the most characteristic symptom of pericarditis, but MacKenzie was impressed by the absence of pain in pericarditis without traces of pleurisy We touched the serous pericardium and sac round the heart through the fourth interspace There was no pain When entry was made through the fifth interspace, there was pain in the phrenic nerve region of the neck Four clinical groups were studied (1) pericarditis, (2) dry pericarditis, (3) cases of coronary thrombosis and (4) cases of pleurisy Large pericardial effusion caused respiratory distress, but no pain Pleural pericarditis caused sharp pain increased by respiration

DISCUSSION

Dr Henry A Christian Boston Clinically, terminal pericarditis rarely gives pain In rheumatic pericarditis, pain is evident There is an idiopathic, acute, nonrheumatic type with sudden onset of severe pain in the abdomen, which is frequently mistaken for a surgical condition The pain is often very severe and continues as long as the persistence of the pericarditis The patients recover, often without subsequent evidence of a lesion The type last mentioned presents considerable diagnostic difficulties unless auscultation is carried out If careful diagnosis is not made, frequently a useless operation is done

Dr Thomas R Boggs, Baltimore I can confirm the observations of Dr Capps in regard to the pain in perforation In a case of pulmonary neoplasm with an enormous amount of fluid, a puncture was made near the nipple When the needle was passed into the puncture, the only points at which the man expressed any feeling of pain were in the region Dr. Capps mentioned

Dr L G. Rowntree, Rochester, Minn I should like to inquire as to seasonal variations, as to the incidence of dyspnea and as to abdominal reference of the pain Absence of pain is one of the most striking symptoms in pericarditis, dry or moist, but without pleural involvement

Dr Homer F Swift, New York The incidence of rheumatic fever shows definite seasonal variation It is highest from February to May, when it begins to drop In severe cases the incidence of dyspnea depends on the underlying cardiac involvement The reference of the pain to the abdomen has not been marked As to the relation of pain to pericarditis, there can be pericarditis without pain, and in other cases there is pain before the pericarditis, hence I feel that the pain is not an indication of the severity of the underlying process I have seen much permanent heart injury from the pericarditis cases Only two patients escaped chronic valvular disease

Dr Joseph A Capps, Chicago There is frequent occurrence of pain in association with pericarditis in rheumatic patients, with a lack of pain in the terminal conditions I would suggest an explanation It may be that in rheumatic carditis we find frequent association with pleurisy, with mediastinitis and involvement of the parietal pleura. In terminal infections, such as nephritis, involvement of the pleura is not so frequent.

Case of Heart Block with Frequent Attacks of Stokes-Adams Syndrome

Dr. James D. Heard, Pittsburgh: This patient suffered with increasing dyspnea, with attacks of mental confusion. He was treated with barium chloride, from 30 to 120 mg. daily, without avail. Studies of the heart one hour after death showed very marked fibrosis with compression of the bundle fibers, and fatty infiltration of the bundle of His.

Occurrence of an Unusual Form of Gallop Rhythm

Dr. Lewis A. Conner, New York: The cases are usually of very short duration. The shock is very marked. The time of the diastolic sound is immediately after the first heart sound. Ten cases were seen. In four it was quite unexpected, occurring in advanced mitral disease. The gallop appears with the beginning of improvement and disappears with its progress. Two patients came back with recurrence of the symptoms. In four cases it was associated with rheumatic heart without signs of failure. One patient had coronary thrombosis. The sound is quick and sharp, and can be seen along the diaphragm. It was occasionally noted with fibrillation. One patient had slow regular rhythm with fibrillation, the slow rhythm probably being a factor. The most interesting change occurring was in the case of hypertension. The location was near the region of the apex. Potin, in 1885, described one case associated with adherent pericardium. The explanation is that it is due to exaggeration of the normal third heart sound.

DISCUSSION

Dr. William S. Thayer, Baltimore: I have been interested in the prediastolic gallop. I think it is commonest in adherent pericardium in acute myocardial disease, in dilated hearts and in aortic insufficiency. The Flint murmur is a loud, early diastolic sound, a little inside the apex of the heart. I think electrocardiograms, when a very exaggerated third sound is heard, are indicative of a grave state of the myocardium itself and are of serious clinical significance. In two cases in which the sound was loudest near the apex of the heart there was a very grave prognosis.

Dr. S. A. Levine, Boston: Dr. Heard made us think that medication would be hopeless in his case, but there have been cases reported in which barium chloride had a valuable effect on the syncope, though not on the heart failure. Barium chloride would be of use for the syncope itself. His case was complicated by heart failure; but without that symptom barium chloride has a definite place in therapy.

Extensive Spontaneous Thrombosis of the Small Branches of the Pulmonary Artery

Dr. Channing Frothingham, Boston: A woman, aged 38, with negative history, had had an attack of shortness of breath six months previously, when she had a cold. Then she improved. Later another cold occurred, with shortness of breath. On admission, the physical examination was negative. On slight exertion there was cyanosis. There was no polycythemia. Liver tests were negative. Roentgen-ray examination showed slight enlargement of the heart. The electrocardiogram did not show anything. The vital capacity was 53 per cent. On the morning of death, the patient was very cyanotic, with the picture of pulmonary embolism. Autopsy showed multiple thrombi scattered through the smaller branches of the pulmonary artery going to the periphery of the lung; slight hypertrophy of the right side of the heart; moderate passive congestion of the liver, spleen and kidneys; slight arteriosclerosis; thrombosis of the hemorrhoidal vein; a small fibroid of the uterus; ulceration of the cervical canal, and slight arteriosclerosis of the pulmonary artery. Some areas were fibrotic, with giant cells and stellate forms. We did not connect these lesions with the multiple thrombosis. In the thrombi, small vessels were working through, showing that the condition was one of long standing. In certain vessels there was a compensatory endarteritis. The cause of the thrombi was not clear.

DISCUSSION

Dr. Homer F. Swift, New York: Were the other organs of the body explored carefully for Aschoff bodies? Von Glahn and Pappenheimer described lesions that on superficial examinations looked like thrombosis, but on examination were found to be definite inflammatory lesions of the vessel wall. Their pictures resemble these illustrations very closely.

Dr. Augustus Wadsworth, Albany, N. Y.: These lesions look like cases of thrombosis and endarteritis which I have described in rheumatic lesions.

Dr. A. S. Warthin, Ann Arbor, Mich.: These lesions look to me like those in Chiari's disease of the liver, extending into the vena cava.

Dr. William H. Welch, Baltimore: Some of the infarcts were anemic necrosis, and some were hemorrhagic. Some of the arteries were occluded without any disturbance in nutrition. Anemic infarcts would show extensive thrombosis of the pulmonary arteries.

Dr. Channing Frothingham, Boston: The arteries elsewhere in the body seemed to be in an excellent condition, except for a few areas of focal sclerosis in the liver. Arteriosclerosis in the lung was shown, but there was no appreciable amount of disease in the wall of the lung.

Experimental Thrombosis

Dr. L. G. Rowntree, Rochester, Minn.: Six or seven per cent of the surgical deaths in Rochester are due to pulmonary embolism. We have tried to avoid these accidents and we believe we have reached a regimen that is effective. We find that heat hastens coagulation time, and cold retards it. To prevent clotting we used heparin, which is an antithrombin. Coagulation is much delayed thereby and clots form slowly, but there is no thrombosis. In jaundiced animals, there was great formation of white thrombi but no fibrin. With many platelets, and without fibrin formation, the blood continued to circulate. Thus it is possible to prevent fibrin formation.

Polycythemia in Feather Dyers

Dr. Eugene S. Kilgore, San Francisco: In July, 1919, there died in the University of California Hospital a German feather dyer, aged 61, who showed clinically a high red count (up to 8,000,000), considerable cyanosis of the nose and ears, palpable spleen, some fibrosis of the apex of the right lung, and, terminally, severe substernal and precordial pain. At autopsy we found erythroblastic hyperplasia of the marrow of the long bones, coronary thrombosis, chronic myocarditis, splenic and renal embolism, and fibrous tuberculosis of the right apex. Two years previously the cyanosis and other physical features were the same but the blood examination was not remarkable. Before his death there came to visit him his assistant in feather dying, a woman, aged 39. Her red cells at one time numbered 12,400,000. She improved following irradiation and benzene treatments.

DISCUSSION

Dr. William C. Stadie, Philadelphia: Was there any appearance of pulmonary fibrosis in these cases?

Dr. Bailey K. Ashford, Porto Rico: In Porto Rico, in the negroes, in the treatment of uncinariasis, followed by excessive anemia, the return of the blood to normal is often followed by an overproduction of red cells. This would seem as if nature, as so often happens, attempts to correct the previous lack by an overcompensation. Thus the mechanism of polycythemia may be in the nature of correction of a previously existing anemia.

Dr. Eugene S. Kilgore, San Francisco: There was a small area of fibrosis in one lung, but not sufficient to have caused any marked effect.

Feeding Whole Liver or an Effective Fraction in Pernicious Anemia

Dr. George R. Minot, Boston: The story of forty cases of pernicious anemia shows that after the feeding of liver (usually 200 Gm. a day) or a certain fraction of it, there occurs with extraordinary regularity a prompt, temporary, often marked increase of the reticulocytes, followed by a rise of the red blood corpuscles, which almost always continues to normal. Kidneys fed to one patient produced similar results. A diet rich in fat does not inhibit the response of the reticulocytes. Raw liver pulp may perhaps cause a greater increase of these cells than an equivalent amount of cooked liver. The behavior of the reticulated red blood cells sugests that liver stimulates maturation of the megaloblasts that crowd the bone marrow in relapse. In secondary anemia the bone marrow does not contain masses of megaloblasts, and a liver diet does not produce a significant increase of reticulocytes. In comparable cases of pernicious anemia the rise of the reticulocytes tends to occur sooner and to be more marked, the greater the amount of effective liver substance fed. The reticulocyte increase is approximately inversely proportional to the height of the red blood corpuscle count. This is to be expected because there are few megaloblasts in the bone marrow when the count of the red blood cells is relatively high. When the count was about one million per cubic millimeter, the reticulocytes increased to between 11 and 50 per cent, and when it was in the vicinity of three million their percentage increase was small. Rarely, a case may show a relatively slight and delayed response of the reticulocytes, which indicates a less desirable prognosis than usual. The nature of the material effective in pernicious anemia is being investigated by studying the influence of feeding fractions of liver. The occurrence or absence of a response of the reticulocytes has given information within nine days after a fraction was fed as to whether or not it was of value. A nonprotein, ether insoluble, alcohol precipitable fraction of beef liver has been isolated, which has caused in each of eight cases a prompt, marked, temporary increase of reticulocytes and a rapid rise in the numbers of red blood cells. Two patients produced at least 750 Gm. of red blood cells in fifteen days while taking about 200 Gm. of this effective fraction. For beneficial results the patient is required to take daily only 10 Gm. of the substance. An adequate, well balanced diet should also be prescribed.

DISCUSSION

Dr. W. C. White, Pittsburgh: Has any attempt been made to estimate the fraction that might be in the Kupffer cells of the liver? We found that a perfusion of the lung had a tremendous effect on the reticulated cells. It had an effect like splenomegaly. Perfusion of the liver might give rise to an effect on the reticulocytes. I believe, however, that we should revise our terminology in regard to some of these elements of the blood. The use of the word reticulocyte is especially misleading.

Dr. Bailey K. Ashford, Porto Rico: In the so-called pernicious anemia following sprue, we have used liver treatment with excellent results in a small series of cases.

Dr. Henry A. Christian, Boston: It is interesting to have watched the enthusiasm accorded to various forms of treatment that have arisen. This is the first type of treatment that to my mind justified the enthusiasm of its advocates. The reasons are these: It is easily applied; it has always worked, and the improvement in the clinical appearance is even more striking than the charted rise in the reticulocytes and the later rise in the red cell count. This treatment has best stood the clinical test in twenty-two years of experience.

Unusual Types of Hemorrhagic Disease

Dr. H. Z. Giffin, Rochester, Minn.: I have seen five unusual types of hemorrhagic disease: 1. A case of splenic anemia and hemorrhagic purpura which developed simultaneously; cure followed splenectomy. 2. Severe hemorrhagic disease in women, through four generations, with high platelet level, long prothrombin time, but normal coagulation time. 3. Severe hemorrhagic disease, presenting the features of hemorrhagic purpura, except for thrombocytopenia; improvement occurred with splenectomy. 4. Severe hemorrhagic disease with very high viscosity of the blood, the platelet level being low and viscosity 31. There was very severe bleeding. The patient was a missionary who came from Thibet. Coagulation time was prolonged and prothrombin moderately prolonged. Albumin was 22 per cent and globulin 78 per cent, a reversal of the normal ratio. 5. Familial epistaxis with telangiectasis, and low platelet level.

Hypertensive Encephalopathy

Dr. B. S. Oppenheimer, New York: There are many acute cerebral upsets, such as convulsions, transient aphasias, hemiplegias, sudden deafness, and amauroses which are related to states of hypertension. We have termed this encephalopathy. A boy, aged 19, who was twenty months in the hospital with marked hypertension after pneumonia but without evidence of disturbed renal function, had violent cerebral convulsive attacks, associated with rise of blood pressure, somewhat analogous to toxemia of pregnancy or acute lead poisoning, not due to disturbance of renal function but rather to some local cerebral change, perhaps sudden arterial contraction, producing sudden edema. Probably vasoconstriction is the primary cause and edema is secondary.

Relation of Acute Infection to the Onset and Progress of Glomerular Nephritis

Dr. Warfield T. Longcope, Baltimore: We have investigated the association of acute infection with the onset of glomerular nephritis and the association of acute infection with the progress of the nephritis. Forty cases have been studied of acute and subacute glomerular nephritis in persons under 30 years of age. Many were studied in detail. Thirty-four cases were associated with acute infection. Tonsillitis occurred in highest proportion in these cases, and 81 per cent were associated with *Streptococcus hemolyticus*. Ten patients recovered, with subsidence of the infection. Three patients died from persistence of the infection. In 83.3 per cent of the cases of nephritis which have progressed or remained stationary the infection has persisted, or the organism has persisted in the pharynx. The alpha and beta types of *S. hemolyticus* produce toxic filtrates in large amounts. There is no evidence that *S. hemolyticus* produces nephritis by direct infection of the kidneys, but patients become highly susceptible to the toxins.

DISCUSSION

Dr. C. P. Emerson, Indianapolis: Has any particular attention been paid to the site of the operation which was followed by acute exacerbation? In our practice we have stipulated to the tonsil men that they are allowed only two minutes for the removal of the tonsils, thus avoiding as much as possible trauma of the tissues with spread of the infection. When this program has been strictly carried out we have had no trouble with subsequent infection of the pharyngeal tissues.

Dr. Homer F. Swift, New York: Were any studies made of the antitoxic capacity of the blood in these cases? In a person harboring toxins, when the organism persisted, we found that there was a demonstrable amount of antitoxin produced in the serum.

Dr. A. R. Dochez, New York: A great deal of interest attaches to the nature of the so-called antitoxin in these cases. The term is used somewhat loosely. Most bacteria give off substances that produce reactions in the skin. Diphtheria toxin produces an acute reaction in the skin. Some of the substances are readily neutralizable, as for instance, diphtheria, which can be neutralized by serum. Tuberculin cannot be neutralized by any serum. Although these studies are incomplete on these substances, which may be single or consist of more than one substance, there should exist a degree of neutrability which varies from the status of diphtheria antitoxin to substances more tuberculin-like in nature. Until there is better understanding as to what is meant by soluble bacterial toxins, it is difficult to estimate their neutralizability.

Dr. Warfield T. Longcope, Baltimore: In answer to Dr. Emerson, we have waited until the acute phase has subsided before operation was performed, but in some cases a necessary tonsillectomy or adenectomy was done promptly. In operations which are more protracted, such as drainage of a sinus, there is often exacerbation, but there was none after tonsillectomy unless there was secondary infection. We have done some work in trying to neutralize the toxins with the serums of the patients, but not enough to justify conclusions. In one instance we thought we obtained neutralization.

(To be continued)

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American J. of Med. Sciences, Philadelphia

173: 453-596 (April) 1927

Newer Physiology of Gastro-Intestinal Tract. A. C. Ivy, Chicago.—p. 453.
Gastric Function in Digestive Disorders. C. S. Keefer and A. L. Bloomfield, San Francisco.—p. 460.
*Chronic Ulcer and Carcinoma of Stomach. W. C. MacCarty, Rochester, Minn.—p. 466.
*Infectious Mononucleosis: I. J. E. Cottrell, Philadelphia.—p. 472.
*Id.: II. Histology of Tonsil and Lymph Node. H. Fox, Philadelphia. —p. 486.
Leukopenia in Hodgkin's Disease, Lymphogranuloma. H. R. Miller, New York.—p. 490.
*Hodgkin's Disease of Skin and Mucous Membranes. R. Bine, San Francisco.—p. 503.
*Renal Glycosuria and Pentosuria. H. W. Jones and W. Sussman, Philadelphia.—p. 513.
*Peritoneal Absorption. C. B. Morton, Rochester, Minn.—p. 517.
*Treatment of Resistant Whipworm Infestation. C. W. Lieb, New York. —p. 523.
*Infection of Gallbladder in Relation to Chronic (Pernicious) Anemia. N. W. Jones and T. M. Joyce, Portland, Ore.—p. 526.
*Intradermal Salt Solution Test in Scarlet Fever. B. R. Lovett, Chicago. —p. 539.
*Hemihypertrophy and Twinning. A. Gesell, New Haven, Conn.—p. 542.
*Electrocardiogram in Bronchial Asthma. M. H. Kahn, New York.— p. 555.
Factors of Growth Regulatory Nature in Tissue Cells. A. Fischer, Copenhagen.—p. 562.

Chronic Ulcer and Carcinoma of Stomach.—MacCarty's analysis of chronic ulcer and carcinoma of the stomach is based on 967 cases of ulcer and 1,353 cases of carcinoma.

Infectious Mononucleosis. — Twelve cases of infectious mononucleosis are reported by Cottrell. The clinical and hematologic pictures seem sufficiently distinct and definite to justify the conclusion that the condition constitutes a clinical entity. The salient features are: 1. The usual general symptoms of an acute febrile disease of greater or less severity. 2. An increase in the lymphocytes, amounting to 40 per cent or more of the total leukocytes. 3. Lymphadenopathy. 4. Angina—either hyperemia of the fauces and pharynx, or a severe ulcerative and exudative process involving the tonsils, uvula or pharyngeal wall, or all three. 5. Splenomegaly. 6. The common presence of the organisms of Vincent in the ulcerative and exudative lesions. 7. Increase in the total number of leukocytes. The prognosis is invariably favorable, and complications are almost unknown.

Histology of Infectious Mononucleosis.—The histology of infectious mononucleosis, in Fox's opinion, seems not to be very distinctive, unless it is that there is a marked hyperplasia of all elements, with an attempt to retain the architecture of the lymph nodes.

Hodgkin's Disease of Skin.—Urticaria-like lesions of the skin preceded by many months the other manifestations of Hodgkin's disease in Bine's case. These skin lesions cleared up, but in later stages of the illness, lesions of the mucous membranes appeared, with marked destruction of tissue. At necropsy the appearance of the tissues was so unusual that, until a thorough microscopic study had been completed, the pathologist doubted the correctness of the clinical diagnosis. There was absence of the usual gland enlargements. The suprarenals were fully the size of lemons, and suggested tuberculosis, even though other tuberculous lesions were absent.

Renal Glycosuria and Pentosuria.—Jones and Sussman assert that the differential diagnosis between renal glycosuria and diabetes mellitus is made by the blood sugar estimation; the blood sugar tolerance test, and the estimation of the respiratory quotient after carbohydrate ingestion.

Peritoneal Absorption.—Experiments made by Morton on rabbits and dogs show that phenolsulphonphthalein is absorbed at essentially the same rate from the inflamed and the normal peritoneum, both in mechanical and bacterial peritonitis. An exception noted was that an adhesive type of peritonitis, greatly lessening the peritoneal area, did seem to retard the rate of absorption slightly. It was further concluded that the presence of a hypertonic solution of sugar in the peritoneum did not retard the absorption of the dye.

Treatment of Whipworm Infestation.—Of the eleven cases reported by Lieb, in only one did the patient's symptomatology suggest parasitism. The other ten cases were discovered simply through accidental observations in routine feces examinations of patients suffering from various symptoms. The time honored methods of parasite eradication by means of anthelmintics failed in all but three of the cases. The treatment that was successful in the remaining cases is described as follows: The patient is given 2 ounces (60 cc.) of castor oil and is then placed on a low residue diet. Then, on each of four successive days, he is given a 2 liter enema with 0.5 per cent solution of monohydrated sodium carbonate, to which is added 1 ounce (30 cc.) of colloidal kaolin. Kaolin is also given by mouth, in 1 ounce doses, once daily, on each of these days. The alkali is given for the purpose of dissolving the mucus. The kaolin tends to cut the thicker mucus and mechanically "de-mucuses," so to speak, the wall of the entire colon. After this four day treatment, the kaolin is discontinued, but the alkaline enema is continued for two days or more. After complete expulsion of this enema, 8 ounces (236 cc.) of crude oil is injected into the rectum through a large syringe, and the patient instructed to retain it as long as possible.

Infection of Gallbladder in Pernicious Anemia.—In every case of pernicious anemia with which Jones and Joyce have personally worked, a chronic infection of the gallbladder has been demonstrated. A small group of cases, which resembled mild pernicious anemia, possessed the same type of biliary infection, and on removal of the infection, the patients were restored to fairly normal health.

Intradermal Salt Solution Test in Scarlet Fever.—The time required for disappearance of the wheal made by injecting salt solution intradermally was found by Lovett to be shortened in scarlet fever, with the amount of shortening roughly proportional to the severity of the illness. In the absence of complications the time returned to normal rapidly, usually before the patient was ready to be out of bed. Urticaria was associated with a shortened disappearance time. A disappearance time of less than thirty minutes may be taken as an additional indication, besides the patient's general condition, for giving scarlet fever antitoxin.

Hemihypertrophy and Twinning.—The literature on fifty-three cases of hemihypertrophy is reviewed by Gesell, and two new cases are reported.

Electrocardiogram in Bronchial Asthma.—Of fifty cases of bronchial asthma and emphysema reported on by Kahn, ten showed electrocardiographic evidence of right ventricular preponderance. The remaining cases either did not show preponderance electrocardiographically or showed left ventricular preponderance in about equal number. Among these, a large proportion of cases showed hypertension and aortic atheroma—factors which influenced the hypertrophy of the left ventricle to a degree sufficient to mask the electrocardiographic evidence of right ventricular hypertrophy. Four of the cases showing right ventricular preponderance also showed high P_2 and P_3. Inversion of the T wave in lead III did not show any particular relation to the ventricular predominance.

American J. of Obst. & Gynec., St. Louis

13: 419-550 (April) 1927

Theophilus Parvin. G. C. Mosher, Kansas City, Mo.—p. 419.
*Postpartum Care. J. O. Polak, New York.—p. 432.
*Obstetric Future of Women Delivered by Cervical Cesarean Section. L. E. Phaneuf, Boston.—p. 446.
Lipiodol Injection of Uterus and Oviduct. L. M. Randall, Rochester, Minn.—p. 457.

*Puerperal Infection Due to Anaerobic Streptococci. O. H. Schwarz and W. J. Dieckmann, St. Louis.—p. 467.
*Rectal Ether Analgesia in Labor. J. A. Harrar, New York.—p. 486.
Prenatal Study. T. Welton, New York.—p. 494.
*Conduct of Labor and Management of Obstetric Emergencies: Six Thousand, Five Hundred and Sixty-Two Cases. C. A. Gordon, New York. —p. 501.
Vaginal Hysterectomy. J. W. Kennedy, Philadelphia.—p. 506.
Transverse Excision of Fundus Uteri with Ovarian Conservation. O. Beuttner, Geneva, Switzerland.—p. 512.
Biologic Defense in Puerperal Infection. P. Findley, Omaha.—p. 514.
Physical Therapy of Uterine Affections. J. Riviére, Paris.—p. 518.
Ruptured Uterus. A. B. Davis, New York.—p. 522.
Treatment of Malignancy. G. W. Crile, Cleveland.—p. 529.
Heart Disease Complicating Pregnancy. B. E. Hamilton and F. S. Kellogg, Boston.—p. 535.
*Developmentally Unfit Infant. G. van A. Brown, Detroit.—p. 541.

Postpartum Care.—In Polak's opinion, more than 60 per cent of the lesions which make up the diseases peculiar to women are the direct results of poor midwifery, the incidence of trauma, infection and a lack of appreciation of the physiologic and biochemical processes which take place in involution. He describes the methods that he employs to prevent disastrous results. Speaking of the pessary, he says: "The large majority of acquired retroversions, provided the patient has intact structures, if treated before they become flexions, can be relieved and many times permanently cured with the pessary."

Results of Cervical Cesarean Section.—A series of forty-one repeated cervical cesarean sections has convinced Phaneuf that the operation is sound in principle, easy of performance and remarkably free from untoward aftereffects. The convalescence is more nearly that of a pelvic delivery, as the lack of handling of intestines reduces shock and distention to a minimum.

Puerperal Infection Due to Anaerobic Streptococcus.—In many of these cases, Schwarz and Dieckmann isolated *Streptococcus putridus*, but they are convinced that other types of anaerobic streptococci which they have encountered are also able to produce pathogenic lesions, but do not do this to the same degree as the organism which Schottmüller described. They advise that in cases of pelvic thrombophlebitis due to anaerobic organisms, particularly *Streptococcus putridus*, ligation of all pelvic veins should be attempted. If the patient's condition justifies further procedure, the infected uterus with the tubes and ovaries should be removed, both to remove the infection of the uterus and to limit the degree of pelvic edema which results from ligation of this kind. If the best results are to be obtained from such a procedure, it must be done as soon as the organism has been recovered from the blood stream in connection with a chill. It is also important to cleanse the uterus early in all cases in which there is a profuse foul discharge.

Rectal Ether Anesthesia in Labor.—Harrar has used rectal ether anesthesia in 580 cases of labor with very satisfactory results. He has not seen any ill results to the mother, and the usual disadvantages of other methods of easing pain in childbirth—perineal delay and asphyxia of the new-born child—are not in evidence. In comparison with the Freiburg "Dämmerschlaf," the effect produced on the mother's suffering is very similar in typical cases; but there is no inhibition of good bearing down efforts in the second stage, and there are no alarms regarding the respiratory condition of the child at birth. Rectal analgesia especially takes the place of intermittent nitrous oxide gas anesthesia during the last few hours of labor. Since it is simple it can be used in the home without the service of a skilled anesthetist.

Conduct of Obstetrics.—Gordon believes that there is a rapidly widening gap between the specialist, on the one hand, and the average man, who handles the bulk of obstetrics. He says hospitals might well open their doors for the practice of obstetrics to all those near them who will agree to follow the rules for technic, consultations, and operative deliveries, and to report their difficulties and casualties at the staff conference. Not the training of more specialists, but continuous education of the average man is important. That means graduate education, not by providing courses for those who seek them, but by the organization of hospitals everywhere, making available for all the vast amount of clinical material which passes through their wards, and carrying to all clinical opportunities for a review of their own experiences which are now denied them. Hospitals will then arrive at their full measure of usefulness, and physicians will discharge their obligations to the public and to one another.

Developmentally Unfit Infant.—Brown says that the best treatment for the developmentally unfit infant is well illustrated in Maeterlinck's play the "Bluebird," in which we are taken to the "land before birth" where children are waiting to be born, having selected their parents-to-be; or in the advice of Oliver Wendell Holmes to children "to choose good grandparents." When the average man learns that he is spending an enormous portion of his wages to insure his family against disease, when a wise marriage would have given him this insurance free of charge, he is bound to be impressed.

American Journal of Psychiatry, Baltimore

6: 613-773 (April) 1927

*Infantile Convulsions. D. A. Thom, Boston.—p. 613.
Epidemiology of Mental Disease. H. B. Elkind, Boston.—p. 623.
*Care of Tuberculosis Patients in Mental Hospitals. H. I. Klopp, Allentown, Pa.—p. 641.
Relation Between Psychiatry and Social Sciences. H. M. Adler, Chicago. —p. 661.
Constitutional Psychopathic Inferior Menace to Society and Suggestion for Disposition of Such Individuals. R. H. Bryant, Pineville, La.—p. 671.
Mental Deficiency and Psychiatrist. H. W. Potter, Thiells, N. Y.—p. 691.
Review of Industrial Psychiatry. M. Sherman, Chicago.—p. 701.
Neuropsychiatric and Disabled Wards of United States Government. J. J. Kindred, Queensborough, N. Y.—p. 711.
Determination of Intellectual Regression and Progression. G. van N. Dearborn, Kingsbridge, N. Y.—p. 725.

Infantile Convulsions.—The figures given by Thom indicate that infantile convulsions occur sixty-seven times in every thousand cases, or about once in every fourteen cases. In 265 cases, quite unselected, reports of which were gathered from a house to house canvas, 29 per cent of the patients were either mentally retarded or epileptic. There was little or no relation between the exciting factor of the first convulsion, that is, whether it was associated with trauma, gastro-intestinal upset, or an acute infection, and the likelihood of the convulsion's persisting or the child's intellectual equipment being impaired. Of the 265 patients forty-two, or 16 per cent, were mentally deficient, and thirty-five, or 13 per cent, were continuing to have convulsions. The incidence of mental deficiency and epilepsy was almost twice as great in those cases in which there was no apparent exciting cause for the first convulsion. Those cases in which the convulsions occurred without any apparent exciting factor (that is, without trauma, teething or gastro-intestinal upsets) are invariably more significant, and the prognosis should be more guarded than in cases in which the convulsion is associated with some definite cause. In a fairly large group of cases, the convulsion is only a symptom of an unstable nervous system, one that is unable to withstand the ordinary vicissitudes to which the normal child is subjected. There is undoubtedly a fairly large group of convulsive disorders in childhood, in which the convulsions are symptoms of an undiagnosed meningitis or encephalitis, which leaves behind irreparable injury to the nervous system. The convulsion itself, though not associated with any devastating disease, such as meningitis or encephalitis, may produce injury from which the brain never recovers. The convulsions associated with rickets and tetany may leave behind very definite injury to the nervous system. There is reason to believe that if the infantile convulsions associated with rickets, gastro-intestinal upsets and acute infections were looked on more seriously, and a greater effort was made to prevent their occurrence during early life, much epilepsy and mental deficiency might be prevented.

Care of Tuberculosis Patients in Mental Hospitals.—Klopp shows that there has been definite progress in the care, treatment and segregation of tuberculous patients in mental hospitals, but that there is room for further improvement.

American Journal of Public Health, Albany, N. Y.

17: 203-310 (March) 1927

Health Department and Practicing Physician. H. F. Vaughan, Detroit. —p. 203.
Effects of Silica Dust on Lungs: I. R. R. Sayers, Washington, D. C. —p. 208.
Laboratory Aspects of College Courses in Hygiene. H. G. Rowell, New York.—p. 215.
*Treatment of Milk by Electrical Method. S. C. Prescott, Cambridge, Mass.—p. 221.
Classification and Grading of Milk. E. Kelly, Washington, D. C.—p. 224.
Sanitary Engineering in Foreign Countries. V. G. Heiser, New York. —p. 227.
Public Health Engineering in Australia. F. F. Longley, Ampere, N. J. —p. 228.
Need for Improved Vital Statistics. R. M. Woodbury, Washington, D. C.—p. 233.
Nursing in Relation to Three Plans for Municipal Health Departments. S. C. Nelson, Boston.—p. 239.
Enteric Infections Simulating Typhoid in Virginia. A. H. Straus, Richmond, Va.—p. 247.
Ventilation Standards. W. J. McConnell, Philadelphia.—p. 251.

Treatment of Milk by Electricity.—Prescott experimented for one year with the electrical treatment of milk proposed by the Medical Research Committee of Great Britain in 1914. The milk did not at any time give a cooked taste, the cream line was well marked, and the volume of cream appeared as in untreated milk. The keeping quality was excellent. The studies on the reduction of the number of bacteria have shown, in general, a high efficiency. An average count of about 20,000 thermophilic organisms per cubic centimeter was obtained in the raw milk, and about 80 per cent of these were destroyed by treatment. Studies on some of the surviving types of bacteria gave, as common survivors, one strain of chromogenic sarcina, one chromogenic micrococcus, and three spore-forming rod-shaped bacteria, of which two grew readily at from 50 to 55 C. Colon bacilli were not found in the samples of treated milk. Tubercle bacilli do not survive.

American J. Roentgenol. & Rad. Therapy, New York

17: 405-506 (April) 1927

Roentgen-Ray Diagnosis of Colitis. J. L. Kantor, New York.—p. 405.
*Roentgenologic Sign of Mucous Colitis. A. W. Crane, Kalamazoo, Mich. —p. 416.
Roentgen-Ray Diagnosis of Lesions of Upper Urinary Tract Unassociated with Calculus. W. M. Shaw, Jacksonville, Fla.—p. 426.
Obstructive Emphysema: Case. J. A. Wilson, Washington, D. C.—p. 432.
*Roentgenologic Study of Chest in Terminal Stage of Pulmonary Tuberculosis. F. K. Herpel, West Palm Beach, Fla.—p. 436.
Roentgenographic Estimation of Concentration of Tetraiodophenolphthalein in Gallbladder. R. R. Newell, San Francisco.—p. 443.
*Traumatic Pneumoventricle of Cerebrum. S. C. Davidson, Rochester, N. Y.—p. 447.
Chondroma of Vertebrae: Case. R. J. May, Cleveland.—p. 452.
Horseshoe Kidney: Case. R. M. Lecomte, Washington, D. C.—p. 456.
Treatment of Uncontrollable Adolescent Bleeding with Radium. W. Neill, Jr., Baltimore.—p. 461.

Roentgenologic Sign of Mucous Colitis.—The sign, described by Crane as the string sign, depends for its significance on the continuity of this mucoid material within the colon. The string sign may involve any part of the colon, the ascending colon least often, the transverse only at times, most often the descending colon and rarely the sigmoid.

Stereoscopic Roentgenography of Tuberculous Chest.—The bodies of 100 persons, dying in a hospital devoted to the care of the tuberculous, have been examined by Herpel by stereoscopic roentgenograms of the chest. Certain tables have been worked out in the analysis of these roentgenograms, showing the incidence of various types of tuberculosis in these patients, with data concerning the pleural complications, the condition of the heart, cavitation and fibrosis. A high percentage of acute miliary tuberculosis was present in this series of deaths from tuberculosis; 23 per cent of the deaths were due to typical acute miliary tuberculosis. Approximately 25 per cent of the patients in this series presented, both from a roentgenologic and a pathologic standpoint, evidences of a combined tuberculous and syphilitic process.

Traumatic Pneumoventricle of Cerebrum. — Two cases of traumatic pneumoventricle of the cerebrum are reported by Davidson, with a mortality rate of 50 per cent. The condition follows fracture of the skull, when the fracture is in such a location as to permit the entrance of air into the cranial cavity. The most probable route by which air gains entrance into the ventricles of the brain is by means of the subarachnoid space.

American Journal of Surgery, New York

2: 307-414 (April) 1927

*Plantar Fascia in Talipes Cavus. J. T. Rugh, Philadelphia.—p. 307.
Chronic Gallbladder Disease. A. F. R. Andresen, New York.—p. 315.
Internist's Problem in Anesthesia. A. H. Waterman, Chicago.—p. 320.
Diathermy in Urogenital Diseases. R. C. Graves, Boston.—p. 327.
Physical Therapy: Principles. V. C. Pedersen, New York.—p. 334.
Id.: In Medicine and Surgery. N. E. Titus, New York.—p. 341.
Iodine Hyperthyroidism. A. S. Jackson, Madison, Wis.—p. 346.
Complications and Their Prevention in Goiter Surgery. G. S. Fahrni, Winnipeg.—p. 350.
Preoperative Iodine Therapy in Toxic Goiter. A. Graham, Cleveland. —p. 354.
Cardiospasm Complicated by Pulmonary Abscess. P. P. Vinson, Rochester, Minn.—p. 359.
*Abdominal Injury. H. B. Eisberg, New York.—p. 362.

Operation for Talipes Cavus.—The principle of the operation which Rugh first described in 1919 is the removal of the structure that is primarily responsible for the deformity, and that is the cause of the relapse and of the continued progress of the deformity, and its replacement by a fat and fascia flap taken from the patient's leg.

Abdominal Injury.—Eisberg relates the case of a boy who fell on his abdomen while hitching on an automobile. The preoperative diagnosis was (1) rupture of the rectum, with extrusion of the small intestine through the anus, and (2) fractured pelvis. When the abdomen was opened, a loop of ileum 60 cm. long was found torn from its mesentery, which passed through a rent in the mesosigmoid from right to left and downward through a tear in the posterior parietal peritoneum, approximately over the sacro-iliac synchondrosis. Further examination revealed the same loop passing downward behind the rectum, which was stripped from the hollow of the sacrum and had a laceration 5 cm. in length, 2 cm. above the anal margin, through which this same loop passed and finally protruded from the anus. A postmortem roentgen-ray examination showed a fracture through the left acetabulum, and a crushing fracture of the fifth lumbar vertebra. Autopsy verified these observations and disclosed, in addition, a partial dislocation of the sacro-iliac synchondrosis.

American Review of Tuberculosis, Baltimore

***15:** 399-520 (April) 1927*

*Relation of Milk to Tuberculosis. W. H. Park, New York.—p. 399.
Transmission of Tuberculosis Through Domestic Animals. L. Rabinowitsch-Kempner, Berlin.—p. 419.
Studies on Pulmonary Tuberculosis: II. Healthy Adult Chest: I. Roentgen-Ray Findings. H. K. Pancoast, Philadelphia, F. H. Baetjer, Baltimore, and K. Dunham, Cincinnati.—p. 429.
Intrathoracic Annular Shadows. R. S. E. Murray, Johnson City, Tenn. —p. 472.
Artificial Pneumothorax Following Spontaneous Pneumothorax of Contralateral Lung. H. F. Gammons, Alexandria, La.—p. 475.
Motor, Sensory and Trophic Reflexes from Lung. F. M. Pottenger, Los Angeles.—p. 477.
Chemical Analysis of Tubercle Bacillus. T. B. Johnson and R. D. Coghill.—p. 494.
*Vernes Test for Tuberculosis. A. B. Baylis, New York.—p. 500.
Serologic Measure of Tuberculosis. A. Vernes, Paris.—p. 505.
*Refraction and Colloid Lability of Blood Serum in Tuberculosis. J. de Darányi, Budapest.—p. 510.

Relation of Milk to Tuberculosis. — Park discusses the extent of human tuberculosis due to the bovine bacillus, and the practicability of reducing or eliminating it by the destruction of the tubercle bacilli in milk and milk products, or by the elimination of the infection of milk by preventing tuberculosis in cattle. He says that the amount of tuberculosis due to the bovine type has decreased more than that due to the human type in cities where pasteurization is in operation.

Vernes Test for Tuberculosis.—Baylis regards the Vernes test for tuberculosis a distinct contribution to serologic methods in the diagnosis of tuberculosis, and a guide to treatment.

Colloid Lability of Blood Serum in Tuberculosis. — De Darányi avers that the colloid lability reaction indicates the activity of the tuberculous process. In incipient cases refraction is still normal, and colloid lability in most cases, if not strong, is already positive. In chronic tuberculosis both values are increased. In grave cases, there are low refraction values with very strongly positive colloid lability. In serial examinations, the increase of refraction and colloid lability means a progression of the tuberculosis, and the decrease of both that healing is taking place. An increase of colloid lability to strongly positive reactions, with a diminution of refraction, that is, an inverse progression of both values, indicates a bad prognosis, especially if hyporefraction values are reached.

Boston Medical and Surgical Journal

196: 635-676 (April 21) 1927

Diagnosis of Abdominal Emergencies. J. M. Birnie, Springfield, Mass. —p. 635.
*Primary Carcinoma of Pancreas. B. M. Fried, Boston.—p. 640.
Conservative Treatment of Optic Nerve Disturbances from Focal Infection. L. E. White, Boston.—p. 644.
*Low Protein Diets in Chronic Nephritis with Nitrogen Retention. M. Smith, Boston.—p. 649.
Directory for Wetnurses. F. B. Talbot, Boston.—p. 653.

Primary Carcinoma of Pancreas.—In the case reported by Fried there was a history of excruciating epigastric pain of one year's duration in a man, aged 70. At the necropsy, Fried found a primary carcinoma of the tail and the body of the pancreas, with metastases to the lungs and the liver.

Low Protein Diets in Chronic Nephritis.—Smith shows that diets of lower protein content than are commonly used in the dietary treatment of chronic nephritis with nitrogen retention are feasible. The amount of protein allowed in the diet should be based on the amount of nonprotein nitrogen which the patient is able to excrete during twenty-four hours. If the nitrogen retention is to be relieved, the protein nitrogen in the diet should be less than the total twenty-four hour content of nonprotein nitrogen in the urine. When the twenty-four hour nitrogen excretory capacity of the kidneys equals the amount of endogenous nitrogen catabolism, it will be impossible to relieve nitrogen retention by dietary measures. With properly constructed diets, it is approximately accurate to calculate the endogenous nitrogen catabolism at from 0.02 to 0.03 Gm. per kilogram of body weight in twenty-four hours. When any subject partakes of a diet which satisfies the energy requirements in full, but with a protein nitrogen content of less than 1 Gm., there is, at first, a strong negative nitrogen balance, and then this gradually diminishes until it approaches a minimum. If such a diet is indefinitely prolonged, it might be possible to deplete the body protein to a dangerous extent. However, there is sufficient evidence to show that such a point would not be reached for many months. This fact makes it practical to administer diets of very low protein content to patients with chronic nephritis and nitrogen retention, for when chronic nephritis has progressed to such an extent as to make necessary diets practically free from protein, other complications of the disease will be more apt to prove fatal sooner than the effects of protein starvation can become apparent. These measures are highly practical in rapidly relieving nitrogen retention, which is the result of excessive protein intake in the presence of a moderate degree of renal insufficiency. After relief of retention, a protein intake could be given which would ensure nitrogen balance.

Canadian Medical Association Journal, Montreal

17: 389-500 (April) 1927

Varieties of Headache. Dawson, London.—p. 389.
Anemia. D. Graham, Toronto.—p. 393.
Treatment of Pernicious Anemia. H. C. Wales, Toronto.—p. 397.
Surgery of Peptic Ulcer. C. K. P. Henry, Montreal.—p. 400.
Pain in Lower Abdomen. G. E. Wilson, Toronto.—p. 405.
*Effect of Injection of Lipiodol and Rate of Its Disappearance in Normal and Diseased Lungs. D. H. Ballon and H. C. Ballon, Montreal.—p. 410.
*Diverticula of Appendix. W. H. Chase, Montreal.—p. 416.
Hereditary Abnormalities of Eye: III. M. T. Macklin, London, Ont. —p. 421.
*Urine in Diabetes Insipidus. A. B. Illievitz, Montreal.—p. 424.
*Blood Transfusion in Bronchial Asthma. W. T. McBroom, Toronto.—p. 426.
Exophthalmic Goiter. W. Magner, Toronto.—p. 428.
*Postoperative Vomiting Treated by Glucose and Insulin. H. S. Dolan, Montreal.—p. 431.
Wound Infection in Appendicitis. L. H. McKim, Montreal.—p. 434.
**Influenza Encephalitis. W. D. Patton, Vancouver, B. C.—p. 436.*
Problems of Childhood. W. M. Musgrove, Winnipeg.—p. 438.
Nutrition and So-Called Indigestion. J. A. MacGregor, London, Ont.—p. 442.
*Agranulocytic Angina. D. Prendergast, Toronto.—p. 446.
Spontaneous Rupture of Diaphragm. B. R. Mooney, Edmonton, Alta.—p. 447.
Hernia in Peritoneal Fossae: Two Cases. R. B. Malcolm, Montreal.—p. 449.
Blood Transfusion Therapy. C. K. P. Henry, Montreal.—p. 450.

Effect of Injection of Iodized Oil.—Although iodized oil can be given with impunity in most cases, the Ballons say that it should not be injected in cases of pulmonary tuberculosis of the exudative type nor in tuberculous pneumonias, as immediate reactions are produced and its persistence produces ill effects. Selected cases of the surgical type of pulmonary tuberculosis are usually suitable cases for injection, and do not produce any reactions. The persistence of iodized oil in a tuberculous lung free from abscess or bronchiectasis is about the same as in the normal lung.

Diverticula of Appendix.—Chase is of the opinion that this condition is more common than is generally realized. It offers one explanation of the recurring, so-called subacute appendicitis extending over months or years, and terminating quite unexpectedly and rapidly by perforation which is otherwise unexplainable. Three cases are reported.

Urine in Diabetes Insipidus.—In a case of diabetes insipidus, Illievitz failed to find either inosite or creatinine in the urine. The urine of diabetes insipidus apparently does not contain any substance which itself may be the causative factor of the polyuria. A substance of unknown chemical composition was isolated from the urine. This was not found in the urine when polyuria was experimentally induced. The substance was isolated and found to be viscid, insoluble in water, but soluble in ether and chloroform; it was partly soluble in 75 per cent alcohol, but could be precipitated with absolute alcohol, forming a fine, amorphous, purplish sediment. Strong and weak acids do not affect it, but it is slowly and totally soluble in strong alkalis, forming a colorless solution, and can be reprecipitated by means of strong acids. An attempt to establish its relationship to indican or tryptophan failed. The urine from which the unknown substance was extracted did not contain either indican or tryptophan.

Blood Transfusion in Bronchial Asthma.—Blood transfusion was done by McBroom in five cases of bronchial asthma. A child and two young men are well today, and have not had recurrences. Two older persons are improved but not altogether free of their trouble.

Treatment of Postoperative Vomiting.—To prevent postoperative vomiting, Dolan gives 100 cc. of orange juice by mouth, with 5 units of insulin hypodermically, one-half hour before anesthesia. Three hours after operation, 100 cc. of 20 per cent dextrose solution is given hypodermically or intravenously.

Influenza Encephalitis.—Since other types of encephalitis than the lethargic are common, the term "influenza encephalitis" is suggested by Patton, restricting the use of the word "lethargic" to the first type, and giving the name "myoclonic" to the second and "maniacal" to the third type. He also asks, Can it be that the disease is a septicemia or bacteremia due to the influenza organism? Believing the disease to be a septicemia, he gives intravenous injections, daily, of from 10 to 15 cc. of a 0.5 per cent solution of neutral acriflavine in physiologic sodium chloride solution. He reports good results.

Agranulocytic Angina.—In the case reported by Prendergast, the hemoglobin was 25 per cent, and the leukocytes, 10,000 per cubic millimeter. The blood smear showed pale red cells, and the platelets and leukocytes appeared decreased in number. There were 90 per cent apparently normal small lymphocytes, and 10 per cent large lymphocytes. No polymorphonuclear or granular cells of any sort were seen.

Journal of Clinical Investigation, Baltimore

4: 1-148 (April 20) 1927

*Velocity of Blood Flow: I. H. L. Blumgart and O. C. Yens, Boston.—p. 1.
*Id.: II. H. L. Blumgart and S. Weiss, Boston.—p. 15.
*Inorganic Sulphates in Human Blood. R. F. Loeb and E. M. Benedict, New York.—p. 33.
*Preferential Utilization of Carbohydrate in Diabetes. W. R. Campbell and J. Markowitz, Toronto.—p. 37.
Pulmonary Gas Diffusion in Polycythemia Vera. G. A. Harrop, Jr., and E. H. Heath, Baltimore.—p. 53.
*Welch Bacillus Infection of Intestinal Tract Etiologic Factor in Pernicious Anemia. R. N. Nye, Boston —p. 71.
*Obesity: Source of Heat During Periods of Reduction. E. H. Mason, Montreal.—p. 93
*Oxyhemoglobin Dissociation Curves of Whole Blood in Anemia. D. W. Richards, Jr., and M. L. Strauss, New York.—p 105.
*Relation Between Blood Urea Concentration and Amount of Functioning Renal Tissue. E. M. MacKay and L. L. MacKay, San Francisco.—p. 127.
*Distribution of Jaundice in Circulatory Failure. J. Meakins, Montreal.—p. 135.

Estimating Velocity of Blood Flow.—A new method is presented by Blumgart and Yens for the measurement of the velocity of blood flow in man. The active deposit of radium is injected into the antecubital vein of one arm, and its time of arrival in the other arm is detected by means of a modified C. T. R. Wilson cloud chamber device.

Normal Velocity of Blood Flow.—The circulation times of fifty-three normal resting male individuals are presented by Blumgart and Weiss. The average arm to arm circulation time was eighteen seconds. The average arm to arm circulation time when reduced to square meter of body surface was ten seconds in individuals between the ages of 15 and 29, and eleven seconds between the ages of 30 and 75. With a conspicuous increase in the pulse rate there is a slight but definite tendency toward an increased velocity of blood flow. A relatively low ventricular rate does not seem to lower the velocity of blood flow below that exhibited by individuals with higher ventricular rates. Normal variations in the blood pressure bear no relation to the normal variations in the velocity of blood flow.

Estimating Inorganic Sulphates in Blood.—Loeb and Benedict used the gravimetric method in their work. They found that the concentration of sulphate ion in the blood of patients suffering from cardiac and renal disorders is at times markedly increased, and that it nearly parallels the retention of nitrogen. There is little deviation from the normal sulphate ion values in certain other pathologic conditions. The normal sulphate ion content of serum varies between 0.40 and 1.00 milli-equivalent per liter. In nephritis with nitrogen retention, the sulphate ion is retained in the blood and roughly parallels the nonprotein nitrogen. Inorganic sulphate ion plays a relatively important rôle in the partition of the acid radicals in the blood in nitrogen retention nephritis.

Preferential Utilization of Carbohydrates in Diabetes.—A new method of studying the question of preferential metabolism of certain carbohydrates or related substances is presented by Campbell and Markowitz. This consists in feeding to depancreatized animals receiving insulin known quantities of the test substance in substitution for equal amounts of glucose. The results obtained by this method on levulose, inulin, dihydroxyacetone and glycerin do not afford evidence that greater quantities can be utilized by the diabetic organism than of glucose itself. This suggests that these substances must pass through a glucose phase in their metabolism and therefore do not undergo any preferential utilization as compared with other carbohydrates. The application of these results to the treatment of human diabetes mellitus is indicated.

Welch Bacillus in Stool in Pernicious Anemia.—Nye asserts that in stools from cases of pernicious anemia there is a great increase in the number of *Bacillus welchii* spores, as compared with normal stools and the stools from the majority of cases of miscellaneous disease. This same increase in *B. welchii* spores is also present in stools from cases of gastric achylia without pernicious anemia. Counts of vegetative forms would seem to indicate that in any of the foregoing conditions the number of active or vegetative forms of *B. welchii* present in the stools is practically the same. On the basis of these observations and the tendency of *B. welchii* to form spores in alkaline mediums, Nye says that it seems logical to assume that the spore increase in pernicious anemia is secondary to the gastric achylia rather than indicative that pernicious anemia is caused by chronic intestinal infecton with *B. welchii.*

Studies on Obesity.—Studies on five cases of obesity in which the patients were maintained on subcaloric diets for prolonged periods of time are reported by Mason. In all cases the ketogenic-antiketogenic molecular ratio exceeded 1 : 1. In one case, the same ratio exceeded 1 : 2 throughout an experimental period of seventy consecutive days. In no case, during the experimental periods, was there any evidence of ketosis.

Oxyhemoglobin Dissociation Curves in Anemia.—The oxyhemoglobin dissociation curves of the whole blood of several subjects with anemia, primary and secondary, were investigated by Richards and Strauss at serum p_H of 7.24, 7.44 and 7.64. At the lower p_H values, all curves studied were close to the curves of normal blood. At serum p_H 7.64, the anemia curves were definitely lower than the normal. Points on the curve of a patient with polycythemia vera did not show evidence of abnormality.

Blood Urea Concentration.—Data are presented by the MacKays that show that the blood urea concentration increases slightly with any reduction from the normal amount of functioning renal tissue, but does not begin to rise markedly until the kidneys are reduced to less than half their original size. Beyond this point the blood urea concentration rises with increasing rapidity to higher and higher levels as the amount of renal tissue is still further decreased. The interesting fact is brought out that a patient with chronic interstitial nephritis may have a blood urea concentration which is within the limits of normal, even though only 50 per cent of the normal amount of functioning renal tissue remains.

Jaundice in Circulatory Failure.—Meakins reports six cases. The pigmentation of the skin in jaundice would appear to be due to the disposition of bile pigments in the cellular elements rather than to a diffusion of the pigments into the intercellular spaces. Microscopic examination of the skin and other tissues shows the cells themselves to contain deposited bile pigments. If the bile pigments were not in solution in the intercellular spaces, it would explain the isolated observation that jaundice of the skin may occur in edematous areas, provided the jaundice antedates the occurrence of the edema. In this one instance the skin was pigmented, while the edema fluid was free of bile pigments. It would appear that an adequate explanation of the absence of bile pigments in edema and serous fluids is not yet possible.

Journal of Laboratory & Clin. Med., St. Louis

12: 629-734 (April) 1927

*Nephelometry. H. Kleinmann, Berlin.—p. 629.
*Diffuse Cortical Sclerosis. G. Y. Rusk and C. E. Nixon, San Francisco.—p. 644.
Integration of Hospital Laboratory Work. P. Hillkowitz, Denver.—p. 666.
Treponematosis in Rural Population of Haiti. C. S. Butler and E. Peterson, Haiti.—p. 670.
*Hemoglobin and Erythrocytes in South. L. S. Lippincott, Vicksburg, Miss.—p. 679.
Drop Recorders. O. S. Gibbs, Halifax, N. S.—p. 686.
New Hydrogen Ion Colorimeter. R. B. H. Gradwohl, St. Louis.—p. 694.
Rapid Method for Determination of Chlorides in Blood or Urine. S. L. Leiboff, New York.—p. 702.
Estimating Blood Pressure in Rabbits. E. M. Watson, London, Can.—p. 706.

Nephelometry.—Kleinmann describes a new nephelometer designed by him and gives a new standard of turbidity. He stresses the fact that nephelometry has proved eminently useful in microchemical and biologic research.

Diffuse Cortical Sclerosis.—Two cases of diffuse cerebral sclerosis are reported by Rusk and Nixon, the ages of the patients being 1 year and 5 months, and 2 years and 10 months, respectively. In both cases the family history was negative, and there was nothing significant in the past history. Vision was involved in both children, and hearing in the second and probably also in the first. The first child was definitely rigid when first seen, and the deep reflexes were hyperactive at that time; later, there was little rigidity and the knee jerks could not be obtained. The second child was spastic and had exaggerated deep reflexes, except in the right leg where a flaccid paralysis developed while the child was in the hospital. In neither case were there pathologic reflexes. Both cases present in a general way a similar pathologic picture. Grossly, there was a striking diffuse, symmetrical atrophy of the cerebral convolutions, with wide but rather shallow sulci in brains which presented normally disposed fissuration. The fresh brains had an elastic firmness to the touch. The microscopic picture consisted of an enormous overgrowth of the glia tissue in the cortex and, to a much less extent, in the white matter of the brain, basal ganglions, brain stem and cord, with marked involvement of the cortical nerve cells and, to a less degree, of the nerve cells of the basal ganglions, brain stem and spinal cord.

Hemoglobin and Erythrocytes in South.—Lippincott asserts that the normal average hemoglobin percentage and erythrocyte counts are lower in Mississippi than the usually accepted normal standards. Color indexes average slightly below 1. While erythrocyte counts do not change with the seasons as does the hemoglobin, most of the higher counts occur in the colder months.

Journal of Nervous & Mental Dis., New York

65: *345 456 (April) 1927*

Syndrome of Mental Automatism: Rôle in Formation of Chronic Systematized Psychoses. P. Bailey, Boston —p 345.
*Intraventricular Hemorrhage. I. J. Sands and M. Lederer, New York. —p 360.
*Treatment of Some Epileptics with Calcium Chloride and Glucocalcium. E. Klein and E. Forcione, Washington, D. C —p. 372.
Columnar Arrangement of Primary Afferent Centers in Brain Stem of Man. W. Freeman, Washington, D. C —p 378.

Intraventricular Hemorrhage.—Sands and Lederer report three cases. Premonitary symptoms of intraventricular hemorrhage are absent. The headache, dizziness and fainting spells which were present in two of these cases pointed to the concomitant cerebral arteriosclerosis. The last case, in which aneurysms were found, presented a chain of symptoms frequently seen in cases of ruptured intracranial aneurysms.

Treatment of Epilepsy.—Klein and Forcione did not derive benefit from the use of calcium over four and five month periods in various types of epilepsy. Not only was there no diminution in the number of seizures, but there was a tendency toward an increase. No advantage was seen in the use of glucocalcium over calcium chloride. There was not a sustained increase in the calcium concentration of the blood serum after the injection of from 0.5 to 2 Gm. of calcium salts.

Jour. Pharmacol. & Exper. Therap., Baltimore

30: *429-505 (April) 1927*

Toxic Action of Acetaldehyde on Organs of Vertebrates J. V. Supniewski, Baltimore.—p 429.
Pharmacologic Properties of Di-Meta Amino Benzoyl Rivanol J. V Supniewski, Baltimore —p. 439.
*Achlorhydria: Treatment with Hydrochloric Acid and Pepsin H V. Dobson, Rochester, Minn —p. 447.
*Quantitative Comparison and Toxicologic Study of Ephedrine and Epinephrine. J. E. Nadler, Woods Hole, Mass —p. 489

Treatment of Achlorhydria.—A patient with achlorhydria has been studied by Dobson by fractional meal tests to determine the effect of giving acid and pepsin. These substances have been administered, combined and separately, in varied dosage, single or fractional, and at different times in relation to meals. A few days after the administration had been begun there were evidences that secretion had increased, and after thirteen days free hydrochloric acid and pepsin in fair concentration were found in the stomach spontaneously after a test meal The dosage necessary to maintain free acid in normal concentration in the stomach throughout digestion was dependent on the composition of the meal, especially from the standpoint of protein For a simple carbohydrate test meal, free acidity could be maintained in normal concentration with adequate dosage at sufficiently frequent intervals during digestion. There was evidence suggesting that free hydrochloric acid not only regulated the activity of pepsin but also influenced its secretion

Comparative Study of Ephedrine and Epinephrine.—Nadler found that epinephrine is about twenty times as effective as ephedrine in antagonizing the action of the extracts of the parathyroid and the anterior pituitary gland, and twice as effective in antagonizing the action of the extract of posterior lobe of the pituitary gland Ephedrine is almost ten times more effective than epinephrine in antagonizing barium chloride. On the basis of the minimum effective dose, epinephrine is two and one-half times as efficient as ephedrine

Medical Journal and Record, New York

125: 437 512 (April 6) 1927

Metabolism in Rheumatism H A Ellis, London —p 437
*Relationship of Diseased Tonsils to Goiter Nine Thousand Eight Hundred and Sixty Four Cases I Bram, Philadelphia —p 442
Why Periodical Eye Examinations? W H Lowell, Boston —p 445
Headache J W. Shuman, Los Angeles —p 447
Status of Radiation Therapy F T Woodbury, New York —p 448
Cancer. XIII Dead Cell W Meyer, New York —p 452 C td
Biloptin (Diiodoatophan) Cholescystography M Einhorn, W H Stewart and E J Ryan, New York —p 457
Injurious Results Following Tonsillectomy C C Rice, New York —p 458
Painful Feet Neurologic Viewpoint C Rosenheck, New York —p 461
Ether Anesthesia and Tuberculosis N Blumberg, Philadelphia —p 462
New Duodenal Tube for Treatment of Peptic Ulcer M B Kunstler, New York —p 466
Relation of Focal Infection to Abortion A C Nickel and R D Mussey, Rochester, Minn —p 467.
Torsion of Fallopian Tube in Virgin M Thorek, Chicago —p 470
Analgesia in Obstetrics J Walker, Philadelphia —p 474
Persistent Regular Menstruation Throughout Entire Periods of Successive Pregnancies D Deutschmann, New York —p 478
Treatment of Uterine Fibroids B Mann, Philadelphia —p 480
Total Radium Rays in Small Doses in Chronic Metritis G Lacapere, Paris —p 482
Doctor and Patient in Addison's Journals L J Bragman, Syracuse, N Y —p 483.

Diseased Tonsils and Goiter.—Bram favors the removal of diseased tonsils in all goiter patients, not necessarily on the score of direct causal relationship, but because such tonsils are a menace to health In exophthalmic goiter, diseased tonsils often play a contributory etiologic rôle

Public Health Reports, Washington, D. C.

42: 1031 1096 (April 15) 1927

*Intradermal Smallpox Vaccination J N Force, Berkeley, Calif —p 1031
*Arsphenamine Sodium Thiosulphate Treatment of Experimental Syphilis C Voegtlin and H A Dyer, Washington, D C —p 1045

Intradermal Smallpox Vaccination.—The literature on the administrative use of the immediate reaction of immunity following smallpox vaccination is reviewed by Force, the causes of failure to obtain this reaction are discussed, and the immediate reaction of immunity following intradermal smallpox vaccination, and the technic of this vaccination, are described It is stated that in order for the vaccine to reproduce it must come in contact with the derma, and a satisfactory scarification should completely remove the epidermis but should not draw blood If the epidermis is completely removed there will be a small, brown, circular scab on the sacrified spot twenty-four hours later If the scarification site presents a pinkish or rose colored spot at this time, the epidermis has not been punctured The vaccine should be rubbed on the exposed derma, not simply dropped on it

Treatment of Experimental Syphilis—In view of the well established therapeutic action of thiosulphate in arsphenamine intoxication, Voegtlin and Dyer experimented to determine whether this drug might not be of value in preventing those toxic manifestations which would otherwise occur as a result of more intensive treatment with the arsphenamines Large doses of sodium thiosulphate did not decrease the trypanocidal efficiency of arsphenamine, neoarsphenamine or sulpharsphenamine, nor did they exert a deleterious effect on the spirocheticidal action of sulpharsphenamine Sodium thiosulphate injected intravenously into rats and rabbits was found to have a very low toxicity

Surgery, Gynecology and Obstetrics, Chicago

44: *433-576 (April) 1927.* Part I

Ureteropyelography. W. F. Braasch and B. H. Hager, Rochester, Minn. —p. 433.
*Tendon Transplantation. F. Lange, Munich.—p. 455.
*Results of Cholecystostomy. R. G. Spurling, Louisville, Ky., and L. R. Whitaker, Boston.—p. 463.
*Recurrent Anterior Dislocation at Shoulder. K. Speed, Chicago.—p. 468.
Sarcoma of Rectum. J. H. Weeks, Philadelphia.—p. 478.
Reduction of Vital Capacity Following Operation. E. D. Churchill and D. McNeil, Boston.—p. 483.
Pathogenesis of Jaundice. C. G. Heyd, J. A. Killian and P. Klemperer, New York.—p. 489.
*Splanchnic Anesthesia. G de Takats, Chicago.—p. 501.
Sterility in Women. J. O. Polak, New York.—p. 520.
*Treatment of Fracture of Neck of Femur. D. P. D. Wilkie, Edinburgh. —p. 529.
*Baldwin Operation for Formation of Artificial Vagina. S. Judin, Serpouhoff, Russia.—p. 530.
*Technic of Open Reduction of Fractures. M. Kirschner, Koenigsberg, Germany.—p. 541.
Obstetric Paralysis. J. W. Sever, Boston —p. 547.
*Correcting Complete Inversion of Vagina With or Without Prolapse. N. F. Miller, Ann Arbor, Mich.—p. 550.
*Carcinoma of Rectum and Rectosigmoid: Choice of Operation. L. P. Bell, Woodland, Calif.—p. 556.
Recto-Abdominal Maneuver for Determining Engagability of Fetal Head. E. D. Resnik, New York.—p. 563.

Tendon Transplantation.—In all tendon transplantations, Lange uses a silk sinew made out of four or eight threads of Turner silk, number 6 or number 12. The silk is sterilized for fifteen minutes immediately before the operation in a solution of mercuric oxycyanide. In only 3 per cent of the first 850 operations was a failure recorded. In cases of gluteal muscle and the latissimus dorsi, Lange makes use of the erector spinae as a substitute for the gluteal muscles.

Results of Cholecystostomy.—Spurling and Whitaker conclude that the drainage of a diseased gallbladder, with the expectation that it will regain its normal function, is not only a futile procedure but one that endangers the future health of the patient.

Operation to Prevent Recurrent Shoulder Dislocation.—To prevent slipping forward of the humerus, Speed drills a hole about 1 inch deep diagonally into the neck of the scapula. Into this is inserted a bone transplant removed from the anterior surface of the tibia. The transplant is driven home, and about three-fourths inch is left projecting anteriorly and obliquely across the lower anterior margin of the shoulder joint. This does not in any way interfere with normal range of shoulder joint motion, but it does prevent the head of the humerus from slipping out forward into anterior and habitual dislocation.

Splanchnic Anesthesia.—The advantages of splanchnic anesthesia over general anesthesia and paravertebral block in well selected cases are stressed by de Takats. The terms posterior and anterior splanchnic anesthesia are recommended to take the place of the terms used by various authors. Block of the splanchnic nerves on both sides results in an anesthesia of the upper abdominal organs. The lower abdomen can be anesthetized by adding to the splanchnic block the anesthesia of the lumbar rami communicantes.

Treatment of Fracture of Femoral Neck.—Instead of encasing the pelvis and lower extremities in a plaster of paris cast, Wilkie effects abduction by means of an apparatus applied to the lower legs with intervening rods.

Formation of Artificial Vagina.—Judin reports six cases in which the Baldwin operation yielded excellent results. All the operations were done under spinal anesthesia.

Open Reduction of Fracture.—Kirschner describes his method of operating in detail. He disinfects the skin with tincture of tannin (acidi tannici, 7.5 Gm.; spiritus vini, 100 cc., and a few grains of fuchsin). Perfect asepsis and complete immobilization of fragments are the results stressed.

Correcting Complete Inversion of Vagina.—A functional vagina with normal length and direction is produced by Miller by means of two "lifting" sutures attached to the sacro-uterine ligaments. It offers a method of supporting the vaginal apex following vaginal panhysterectomy for complete prolapse.

Operation for Carcinoma of Rectum.—In Bell's opinion, the two-stage abdominoperineal operation is the method of choice when the grade of malignancy is high, or when the physical condition of the patient is such that there is no appreciable operative risk.

44: *1-214 (April) 1927.* Part II

*Bone Sarcoma. A. Kolodny, Iowa City.—p. 1.

Bone Sarcoma.—Kolodny presents the results of his study of the bone sarcoma material from the Registry of Bone Sarcoma. This is virtually a monograph on the subject, covering 214 pages, with 104 beautiful illustrations and forty-one plates.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

11: 145-208 (April) 1927

Locke's Solution and Cornea. E. N. Hughes.—p. 145.
Retrobulbar Neuritis Associated with Sinusitis. W. S. Thacker-Neville. —p. 147.
Krukenberg's Spindle in Cataract Case. R. R. James.—p. 148.
Treatment of Trachoma by Acetic Acid. J. A. Lea.—p. 150.
Barraquer's Operation for Lens Extraction. J. R. Smith.—p. 152.

British Journal of Radiology, London

32: 81-118 (March) 1927

Roentgen-Ray Diagnosis of Pathologic Conditions of Gallbladder. J. F. Brailsford.—p. 81.
Radiologic Diagnosis of Early Pulmonary Tuberculosis. A. T. H. Nisbet. —p. 101.

British Medical Journal, London

1: 607-652 (April 2) 1927

Varieties of Headache. Dawson.—p. 607.
Surgical Treatment of Paralysis of Vocal Cords and Paralysis of Diaphragm. L. Colledge and C. Ballance.—p. 609.
Cholecystography. D. P. D. Wilkie and C. F. W. Illingworth.—p. 613.
*Id. J. H. Mather and W. R. Williams.—p. 614.
*Epidemic Encephalitis: Permanent Recoveries. A. G. Robb.—p. 615.
Purulent Perichondritis of Larynx. J. A. Gibb.—p. 616.
Transposition of Viscera. A. Cruickshank.—p. 616.
Labor Retarded by Hydrocephalus Terminated by Draining Spina Bifida. R. G. Bingham.—p. 616.

Cholecystography.—Experience with 125 cases has convinced Mather and Williams that cholecystography by the oral method is easier than the intravenous so far as the preliminaries are concerned, and yields equally satisfactory results from a radiographic point of view. The proceeding is devoid of risk, and the toxic effects are practically negligible. The surgical observations confirmed the roentgen-ray diagnosis in 94.3 per cent of the cases.

Recovery from Epidemic Encephalitis.—In 173 cases reviewed by Robb, twenty-one patients died in the acute stage; 152 recovered from the acute attack. Of 141 patients examined, two and one-half years later, only thirteen were apparently well. All the rest showed some evidence of disease. Eighty-three patients showed parkinsonism; eighty-four were totally incapacitated, and twenty-nine were partially incapacitated.

Indian Medical Research Memoirs, Calcutta

No. 5: 1-85 (Feb.) 1927

Distribution of Anopheline Mosquitoes in India and Ceylon. G. Covell. —p. 1.

Journal of Hygiene, London

26: 1-109 (March) 1927

Geographic Distribution of Goiter in School Children in England and Wales. J. M. H. Campbell.—p. 1.
*Melioidosis in Cochin China. R. Pons and M. Advier.—p. 28.
*Id.: Culture of B. Whitmori from Saigon. A. T. Stanton and W. Fletcher.—p. 31.
Melioidosis in Horse. A. T. Stanton, W. Fletcher and S. L. Symonds. —p. 33.
*Influence of External Factors on Mortality from Pneumonia in Childhood and Later Adult Life. H. M. Woods.—p. 36.
Method of Division of Rough and Smooth Type of Colonies Among Bacilli of Salmonella Group. M. M. Nutt.—p. 44.

*Iodine Content of Foods, Manures and Animal Products in Relation to Prophylaxis of Endemic Goiter in New Zealand. C. E. Hercus and K. C. Roberts.—p. 49.
*Specific Toxigenic Properties of Hemolytic Streptococci from Scarlatina and Other Sources. D. G. S. McLachlan.—p. 84.
*Value of Mixed Vaccines in Prevention of Common Cold. F. R. Ferguson, A. F. C. Davey and W. W. C. Topley.—p. 98.

Melioidosis in China.—A case of the septicemic form of melioidosis is recorded by Pons and Advier from Cochin, China, and certain new biologic characters of the causative agent, *B. whitmori*, are described. An animal origin of the infection in this case is considered probable.

Melioidosis: Bacillus of Whitmore.—The biologic characters, and pathologic effects in animal inoculation, of a strain of *B. whitmori* from Saigon are described by Stanton and Fletcher. It is the most virulent strain of the organism from a human source that has so far been encountered. The case from which the organism was recovered was an example of the septicemic form of melioidosis.

Prevention of Pneumonia Mortality in Children.—Woods concludes that the pneumonia mortality of young childhood is largely preventable, and that there is some, perhaps a large element, of preventability in the mortality from pneumonia of adults between 45 and 64, a time of life when, as is well known, there are gross differences between the rates of mortality in different parts of the country.

Iodine Content of Foods.—A comparative study made by Hercus and Roberts of the iodine content of foodstuffs from goitrous and nongoitrous districts established the fact that the soil iodine is accurately reflected in the food iodine. The iodine content of certain vegetables and animal foods is shown to present a well marked seasonal variation. The maximum iodine content of vegetable matter is reached in the late autumn and winter when growth is at a minimum. In the case of eggs the maximum is reached in the summer, in milk, in the spring. Cooking is shown to have little effect on the reduction of the iodine content of root vegetables, seaweed, fish and bread, but to reduce the content of green vegetables by about two thirds. Commercial salt is shown to be an unreliable source of iodine supply, the majority being practically iodine free. Tobacco smoke is a negligible source of iodine supply. A well defined relationship is shown to exist between goiter incidence and iodine excretion in the urine. The iodine content of human milk in the goitrous woman is shown to be lower than in the nongoitrous, and a relationship is shown to exist between the amount of iodine excreted in the urine and milk during lactation. The flesh of fish is shown to vary in iodine content according to its "iodine environment." The addition of small amounts of potassium iodide to the diet of various animals is shown to increase the iodine content of the thyroid glands and of the food products.

Toxin of Scarlet Fever Streptococcus.—Ninety-eight strains of hemolytic streptococci isolated by McLachlan from scarlet fever cases have been found to produce a toxic principle which in high dilutions is capable of evoking a cutaneous reaction in susceptible persons.

Prevention of Colds by Vaccines.—Ferguson et al. are of the opinion that the available evidence suggests very strongly that it is futile to hope for a reduction in the incidence of common colds among the population at large as the result of the prophylactic inoculation of any of the stock vaccines now available.

Jour. Obstet. & Gynaec. British Empire, Manchester

34: 1-184 (Spring) 1927

*Involution of Uterus Postpartum. J. H. Teacher.—p. 1.
Distribution and Significance of Ectopic Decidual Cells. W. Shaw.—p. 28.
*Pathology of Fetal Maceration. C. J. Thomson.—p. 40.
Acute Postpartum Edema of Cervix Uteri. J. W. A. Hunter.—p. 72.
*Indications for Induction of Labor. P. Connan and R. Owen-Jones.—p. 83.
Melanotic Sarcoma of Clitoris. F. Ivens.—p. 91.
*Case of Superfetation. J. Riddel.—p. 93.
Combined Scissors and Needle Holder for Operation of Colpoperineorrhaphy. M. McCullagh.—p. 101.

Involution of Uterus Postpartum.—Teacher says that the fourteenth day is roughly the turning point at which building up definitely exceeds retrogression. At from five to six weeks restoration should be fairly complete, but evidence of recent pregnancy may be recognizable for a considerably longer period, even in circumstances most favorable to involution. Such evidence is found in the presence of pigmented phagocytes, and in the remains of the uteroplacental vessels.

Pathology of Fetal Maceration.—Thomson has examined the tissues of twenty-seven macerated fetuses of viable age. She summarizes briefly the work already done in this field; gives a description of the naked eye and microscopic changes occurring in maceration, and discusses the nature of this process.

Indications for Induction of Labor.—The 123 cases of contracted pelvis and the eighty-two cases of postmaturity discussed by Connan and Owen-Jones, in which labor was induced, occurred in more than 8,000 labors. In 63 per cent of the contracted pelvis cases the operation was performed either too early or need not have been performed at all, and in 61 per cent of the postmaturity cases the operation was performed too early. The only indication recognized by them for induction of labor in a case of so-called postmaturity is disproportion between the head of the child and the pelvis of the mother. The children of women whose labor is induced with castor oil, quinine and pituitary extract do not progress as satisfactorily as those in which labor has not been so induced. Induction of labor for postmaturity and for contracted pelvis with quinine was successful only in 66 per cent and 46 per cent, respectively.

Superfetation.—Riddel reports a case in which a diagnosis of missed abortion was made in the fourth month of pregnancy. At the operation, two fetuses were removed from the uterus. The gestation sacs were separate. The first fetus was of the age of 3½ months, complete with placenta, and was macerated. The second was a fetus of the age of 7 weeks, to all appearances healthy and growing. The uterus was not septate, nor was this a twin pregnancy. The larger fetus had been dead for a considerable time, and the smaller was healthy and growing.

Journal of Physiology, London

62: 315-416 (March 15) 1927

*Osmotic Pressure of Aqueous Humor. W. S. Duke-Elder.—p. 315.
Localization of Receptors Involved in Reflex Regulation of Heart Rate. I. de Burgh Daly and E. B. Verney.—p. 330.
*Influence of Insulin on Mammalian Heart. M. B. Visscher and E. A. Müller.—p. 341.
Two Phases of Heat Production of Nerve. R. W. Gerard.—p. 349.
*Static Effort and Excretion of Uric Acid. R. C. Garry.—p. 364.
Fetal Blood-Gas Tensions and Gas Transfusion Through Placenta of Goat. A. St. G. Huggett.—p. 373.
*Internal Secretions of Ovary· IV. Estrin in Placenta. A. S. Parkes and C. W. Bellerby.—p. 385.
*Nature of Vasodilator Constituents of Certain Tissue Extracts. C. H. Best, H. H. Dale, H. W. Dudley and W. V. Thorpe.—p. 397.

Nature of Aqueous Humor.—Evidence is brought forward by Duke-Elder which suggests that the aqueous humor is a dialysate of capillary blood, in that, when this fluid is equilibrated with arterial blood, its refraction, conductivity and sugar content remain practically unaltered, any change which does occur being in the direction of equilibrium with venous blood. The osmotic pressure of the aqueous is the same as that of a dialysate. It is therefore less than that of the blood, the amount depending on the difference in the colloid content of the two fluids.

Influence of Insulin on Mammalian Heart.—Visscher and Müller investigated the effects of preparations of insulin on the mechanical condition of the mammalian heart, in the heart-lung preparation and in the whole animal, and the oxygen consumption of the heart in the heart-lung preparation. In the heart-lung preparation commercial insulin causes a more or less transitory increase of the power of the cardiac fibers, which appears as a decrease in the ventricular volume necessary to do a given amount of work. The effect is identical in normal and diabetic hearts. In the intact animal, normal or diabetic, a rise in arterial blood pressure follows intravenous insulin injections. There is no direct stimulation by insulin of oxidative metabolism in the isolated heart. After adding blood perfused through the pancreas to the heart-lung preparation, insulin has no further effect on the heart.

Effort of Exertion on Uric Acid Excretion.—Experiments done by Garry showed that ordinary muscular exertion increases the excretion of uric acid on the day of work, the increase extending into the two following days. The output of total nitrogen is similarly affected.

Estrin in Placenta.—It is suggested by Parkes and Bellerby that the presence of estrin in the placenta is more easily explained on the ground that the placenta withdraws estrin from the maternal circulation to protect the fetuses from its action, than that the placenta elaborates the hormone.

Extraction of Histamine and Choline in Liver and Lung.—Histamine and choline have been isolated by Best et al. from alcoholic extracts of fresh liver and lung, in quantities sufficient to account for the immediate vasodilator activities of those extracts. Histamine is responsible for the greater part of this activity, and is present in remarkably large amount in the extract from lung. The physiologic significance of its occurrence is discussed.

Lancet, London

1: 637-690 (March 26) 1927

*Muscular Mechanism of Respiration. C. Briscoe.—p. 637.
*Cardiac Dyspnea. F. R. Fraser.—p. 643.
Sanocrysin in Treatment of Pulmonary Tuberculosis. A. Morland and E. Zimmerli.—p. 648.
*Experimental Meningo-Encephalitis of Mumps. M. H. Gordon.—p. 652.
Injury to Placenta During Krause's Method of Induction. J. H. Robinson.—p. 653.
*Abdominal Pregnancy. J. Silverstone.—p. 653.
*Erythema Nodosum Following Smallpox. W. L. Tullis.—p. 654.

Muscular Mechanism of Respiration.—Briscoe asserts that the question of stretch governs the order in which muscles will contract and the power they will put into that contraction. The diaphragm is almost the only respiratory muscle worth considering in quiet breathing in animals, and remains the most important in man, though in him it has lost some mechanical efficiency through his orthograde habit. Man is forced to compensate for this relative deficiency of the diaphragm by a greater use of other muscles, these other muscles acting either by active contraction or by persistent tonus of a postural type. If exaggerated these actions are not a normal use of muscle but an abnormal overuse, and in consequence a possible source of trouble.

Cause of Cardiac Dyspnea.—The fundamental cause of cardiac dyspnea, Fraser states, is inefficiency of the myocardium. The clinical features and experimental observations on orthopnea, periodic breathing and paroxysmal dyspnea (or cardiac asthma) are compatible with these conceptions of cardiac dyspnea. Dyspnea may be a dangerous reaction, and in certain cases the direct treatment of it by means of morphine is indicated, but full use of this action of morphine cannot be attained until practical methods of administering oxygen are further developed.

Experimental Meningo-Encephalitis of Mumps.—By the intracerebral injection of a bacteria-free filtrate obtained by passing a gargle from an ordinary uncomplicated case of mumps through the Berkefeld filter, Gordon produced definite evidence of encephalitis in the brain of a monkey.

Abdominal Pregnancy.—Silverstone relates the case of a woman who was said to have had a miscarriage. Two days later she experienced a pain in her left side, and felt a lump in this region about the size of an egg. The lump increased in size and the pain became worse. Some slight rigidity was detected in the left iliac region. There was no vaginal discharge, but there was a suspicion of fulness in the left fornix. The diagnosis of ruptured ectopic gestation was made, and an operation was performed. The left tube was found to be ruptured in almost the whole of its length, and was removed. No trace of the fetus was found. The patient recovered from the operation and did very well for a fortnight. Then suddenly she began to vomit, and it became apparent that she had acute intestinal obstruction. She was operated on again, and a loop of small intestine was found obstructed by a band extending across the brim of the true pelvis. This was divided, and the bowel freed. The left side of the abdomen was about to be examined when a fetus, about 1¾ inches in length, shot out from under the left edge of the wound. A small umbilical cord was present, which led down to a definitely formed placenta. The latter was found to be attached to coils of small intestine, descending colon and omentum.

Erythema Nodosum Following Smallpox.—An unvaccinated girl, aged 6 years, contracted smallpox. In the fourth week, the lesions of erythema nodosum appeared over the extensor aspect of both legs. Careful examination of the child failed to reveal any evidence of rheumatism. The child's general condition appeared good, and there was no sign of either tuberculosis or syphilis. This is the first case of erythema nodosum Tullis has encountered in a series of 1,900 cases of smallpox.

Practitioner, London

118: 137-204 (March) 1927

Effect of Sun, Sea and Open Air in Health and in Disease. H. Gauvain.—p. 137.
Treatment of Tuberculosis of Kidney. F. Kidd.—p. 150.
Technic in Operations on Kidney. T. Rovsing.—p. 164.
*Surgical Treatment of Perforating Peptic Ulcer. G. Söderlund.—p. 171.
*Etiology of Peptic Ulcer. A. C. Douglas.—p. 182.
Treatment of Carcinoma of Mouth. P. J. Moir.—p. 187.
*Friedreich's Paramyoclonus Multiplex: Treatment. J. Reid.—p. 191.
Delivery of Membranes in Normal Labor. F. Keane.—p. 195.

Treatment of Perforating Peptic Ulcer.—Thirty-two cases of perforation of a peptic ulcer are reviewed by Söderlund. In thirty-one of the cases, the perforation took place in a completely free abdominal cavity; in the remaining case, peritonitis was limited to the tract above the transverse colon. Of the thirty-two patients, thirty-one have been dismissed as cured and free of symptoms. Only one patient died. The time between the perforation and the operation was usually short, being, as a rule, only some few hours, and the majority of the patients have been comparatively young; only twelve were 40 years old or upward, but of these one had reached the age of 65, one of 60 and one of 55. The operations in these thirty-two cases were performed by six different surgeons. After the ulcer has been excised, the perforation opening closed and the abdominal cavity irrigated with a solution of warm common salt, a typical Witzel fistula is performed in the front of the stomach. As a rule, the gastrostomy tube can be removed about a week after the operation. The after-treatment is simple. The most important part of it may be said to be morphine injections against pain during the first two or three days, and care that a sufficient quantity of liquid should be administered by rectum or subcutaneously during the period in which the stomach does not empty itself down the intestine.

Etiology of Peptic Ulcer.—Douglas summarizes his views as follows: The gastric mucosa is protected from digestion by its own secretions through a delicately balanced biochemical mechanism, breakdown of which precipitates the formation of "peptic ulcer," and this breakdown is due to a trophoneurosis of toxic origin. The same toxic neurosis, which is probably peripheral, affects also the muscular and glandular mechanisms. The glandular disturbance is usually manifested by hypersecretion, while the muscular disorder shows itself in incoordinate and exaggerated activity, with a high reflex sensitivity to stimulation by free acid. It is obvious, however, that this theory does not negative the possibility of cases occurring with hyposecretion or with muscular atony. The clinical picture presents variations according as to whether the toxic blow falls heavier on one structure or on the other; for instance, if the glands are mostly affected, there may be hypersecretion for some time without ulcer formation; if, on the other hand, the trophic function is profoundly poisoned, the unprotected gastric wall may be digested rapidly and perforate without warning.

Paramyoclonus Multiplex.—On the assumption that there is a hyperovarian or testicular internal secretion in paramyoclonus multiplex, Reid says the treatment resolves itself into ovariotomy complete on one side and partial on the other, or unilateral vasectomy in the male. Paramyoclonus is probably due to a disordered state of the internal secretion of ovary or testis, and is closely related to hysteria, chorea, convulsions, tic and neurasthenia.

Annales de l'Institut Pasteur, Paris

41: 1-81 (Jan.) 1927

Spirochetes of the Cecum. G. Sanarelli.—p. 1.
Pathogenic Property of Fixed Virus. A. C. Marie.—p. 45.
Agglutinability of Micro-Organisms. M. Béguet.—p. 49.
Action of Milk in Preventing Hemolysis. G. S. Joannidès.—p. 59.
Cultivation of Isolated Trichomonas Intestinalis. C. J. Schuurmann and A. Schuurmann ten Bohkel Stuinink.—p. 62.
*Production of a Highly Active Anthrax Antiserum. C. Hruska.—p. 72.

Production of Anthrax Antiserum by Simultaneous Injections of Edema Fluid and Anthrax Virus.—Hruska's experiments were as follows: Horses hyperimmunized against anthrax were injected with anthrax virus in one shoulder. The other shoulder was injected with edema fluid formed in cows at the point of inoculation with anthrax vaccine. The area where the edema fluid was injected presented a much more intense reaction than that where the virus was injected. The serum of hyperimmunized horses thus treated possesses a high therapeutic value. It was employed in three stables in which an anthrax epidemic had broken out. The sick animals recovered, and new cases did not occur.

Archives de Médecine des Enfants, Paris

30: 5-72 (Jan.) 1927

Cases of Mongolian Idiocy. J. Comby.—p. 5.
*Prognosis of von Jaksch's Anemia. E. A. Beretervide and A. Bianchi. —p. 26.
Case of Tortipelvis. J. C. Navarro and A. S. Marotta.—p. 29.

Prognosis of Pseudoleukemic Infantile Anemia.—Beretervide and Bianchi disagree with Roelofs' statement that children with von Jaksch's anemia can be cured with injections of maternal blood and appropriate diet. They are persuaded that the disease is fatal. Alleged cases with recovery presented, they say, nothing else than secondary anemia, probably of syphilitic origin. The diagnosis of von Jaksch's anemia is based essentially on the presence of megaloblasts in the blood. Enlargement of the liver and of the spleen are other important symptoms. Changes in the leukocyte picture may be present or not. Syphilis is a frequent factor in the disease.

Bruxelles Médical, Brussels

7: 373-410 (Jan. 23) 1927

*Search for Tubercle Bacilli in the Feces. P. Corsonello.—p. 173.
Obstetric Shock in a Case of Placenta Praevia. O. Dauwe.—p. 378.
Cardiology and Pathology of the Circulatory System in 1925-1926. F. van Dooren.—p. 383.
Hydatidiform Mole Complicated by Eclampsia. M. Brouha.—p. 387.

Search for Tubercle Bacilli in the Stools, as Diagnostic Method. — Corsonello examined the stools of forty-five patients with pulmonary tuberculosis. In cases in which the tubercle bacillus was found in the sputum, it was almost constant in the feces also. The bacillus was never detected in the stools of healthy persons. It is important to search for tubercle bacilli in the stools in cases of suspected tuberculosis in which expectoration is absent or in which the sputum cannot be obtained, as in infants. Feces containing tubercle bacilli are a possible source of contagion.

Comptes Rendus de la Société de Biologie, Paris

96: 233-304 (Feb. 4) 1927. Partial Index

*Impermeability of the Placenta for Toxins and Antitoxins. L. Nattan-Larrier et al.—p. 241.
*Proper Dose of Toxin for the Dick Test. R. Debré and M. Lamy.—p. 244.
Effect of Suprarenal Extract on Glycemia. M. Labbé and P. Renault. —p. 248.
Action of Marienbad Mineral Water in Diabetes. O. Kauffmann-Cosla and W. Zörkendörfer.—p. 281.
*The Alkali Reserve in the Course of Serum Sickness. J. Chalier and H. Thiers.—p. 283.
*Insulin, Blood Pressure and Glycemia. L. Jung and L. Auger.—p. 287.
*Hyperglycemia from Pilocarpine. A. Le Grand and G. Biérent.—p. 291.
*Influence of Venesection on Peak Metabolism. X. Chahovitch.—p. 298.
*Peak Metabolism in Pathologic Conditions. X. Chahovitch.—p. 299.

Impermeability of Placenta for Toxins and Antitoxins.—Nattan-Larrier, Ramon and Grasset inoculated gravid rabbits with tetanus toxin, and then removed the living fetuses by cesarean section. Blood serum from the mother rabbits and from the fetuses was injected into two series of guinea-pigs. The fetal serum did not cause any marked disturbances, while the maternal serum killed the animals. The experiments were repeated with diphtheria toxin. The results were the same. Other gravid rabbits were given tetanus or diphtheria antiserum. A few hours after delivery, blood was withdrawn from the mother rabbits and from the young. Both blood serums were able to neutralize lethal doses of corresponding toxins. While the placenta is permeable for antibodies or antitoxins, the toxins or anatoxins do not pass through it. This impermeability contrasts with the prompt passage of invisible viruses through the placenta.

The Proper Dose of Toxin for the Dick Test.—In Debré and Lamy's opinion, the dose of toxin commonly used for the Dick test (0.1 cc. of a 1:1,000 or 1:2,000 dilution) may be insufficient. Of twenty-three children with scarlet fever, the Dick test, made with the usual dose, had been positive in twenty-one, negative in two. About 377 persons were tested with a single dose and with a double Dick dose. The results disagreed in seven cases; in twenty-one, the reaction was faint with the single dose and intense with the double dose. In these cases, examination of the blood serum revealed that the amount of antitoxin was small, the immunity insignificant. Such persons are susceptible of contracting scarlet fever.

The Alkali Reserve in the Course of Serum Sickness.—Chalier and Thiers' observations were made on ten persons injected with diphtheria or typhoid antiserum. In those who developed phenomena of serum sickness, the alkali reserve tended to become lower. There did not seem to be any relation between the gravity or clinical type of the serum sickness and the variations in the alkali reserve.

Relations Between Insulin, Arterial Tension and Glycemia.—Jung and Auger estimated the changes in the blood pressure and the blood sugar in eighteen dogs after injections of insulin. They conclude that there is not any correlation between the induced hypoglycemia and the induced hypotension. Successive injections of glucose may suppress the hypoglycemia, or even induce hyperglycemia; at the same time, the hypotension may remain unaffected. A minimal blood pressure may be associated with a very high glycemia. The hypotensive action of insulin does not seem to depend on the induced decrease in the blood sugar.

Mechanism of Hyperglycemia Caused by Pilocarpine.—In LeGrand and Bierent's experience injections of pilocarpine nitrate produced in dogs a high hyperglycemia, lasting for about fifty minutes. In suprarenalectomized animals the same injections induced an unappreciable hyperglycemia, which disappeared rapidly. Evidently the suprarenals share in the mechanism of hyperglycemia.

Action of Venesection on Peak Metabolism and on the Metabolic Quotient.—Chahovitch experimented on pigeons. The peak metabolism was measured in the birds before and after venesection. The latter reduced the intensity of the metabolism, as well as the metabolic quotient. Hence, the thermogenetic property was diminished. In further researches, rats with decreased peak metabolism were found to present a pathologic condition characterized by nutritional disturbances and degeneration of organs. The basal metabolism sometimes remained normal in these animals.

Journal d'Urologie Médicale et Chirurgicale, Paris

23: 5-96 (Jan.) 1927. Partial Index

Prostatectomy Preceded by Cystostomy. Rochet.—p. 5.
*Latent Chronic Prostatitis. J. Perrin.—p. 21.
Cyst of the Prostate. André.—p. 30.
Thrush and Vesical Stone. M. Rafin.—p. 32.

Latent Form of Chronic Prostatitis.—Perrin reports four cases in which chronic inflammation of the prostate was not revealed either by functional symptoms or by urethroscopic examination. In the latent form of prostatitis, the lesions are located chiefly in the interstitial tissue. It happened that this form was observed more frequently than the prostatorrheal form. Slight pain in the perineum or urethra, the appearance of a drop of pus in the urethral orifice, sometimes the presence of orchiepididymitis, suggest the diagnosis. The diagnosis is confirmed only in the course of the treatment. Gonorrhea is the usual cause. The treatment consists in digital massage of the prostate and the vesicles, repeated three times a week. Each sitting lasts five or six minutes; it is preceded by urethrovesical irrigation with an antiseptic solution. The massage is supplemented by electric effluvation on alternate days. An electrode is placed in the rectum. Cure usually follows in three or four weeks. Recurrences do not take place.

Nourrisson, Paris

15: 1 64 (Jan.) 1927 Partial Index

*Pneumococcus Peritonitis in Young Children A. B Marfan and J. Florand.—p 1
*Primary Diarrhea in Breast Fed Infants H. Slobosiano and E Munteano.—p 6
Pyloric Stenosis in an Infant Mutel and A Remy.—p 18
Curable Form of Sclerema Neonatorum Marfan and Hallez.—p 32

Pneumococcus Peritonitis in Young Children.—Marfan and Florand describe a case of peritonitis, apparently of tuberculous origin, in a girl, aged 2½ The respiratory signs, the positive tuberculin reaction and the fact that the child had been repeatedly in contact with a tuberculous person tended to sustain the diagnosis Not before a phlegmon appeared in the umbilical region was the real character of the peritonitis established. The phlegmon, which is characteristic for pneumococcus peritonitis, occurs rarely in tuberculous peritonitis The phlegmon developed into an abscess, pneumococci were found in the pus in large amounts Tubercle bacilli were not present. The girl died from complicating perforation of the intestine. The authors believe that roentgen-ray examination would have been a great help in the case A shadow representing an irregularly distended bladder might have suggested the diagnosis of pneumococcus abscess

Pathogenesis and Treatment of Primary Diarrhea in Breast-Fed Infants.—Slobosiano and Munteano advocate the use of adsorbing substances in treatment of primary diarrhea in breast-fed infants The diarrhea may occur from an abnormal amount of lactose in the maternal milk, which is responsible for fermentation and an excessive content of acids in the infant's stools These acids accelerate the intestinal peristalsis. Adsorbing substances neutralize the intestinal acids. They use a mixture containing water 175 Gm, aluminum silicate and animal charcoal or tricalcium phosphate, 10 Gm each, ether 2 Gm and syrup 25 Gm. Two teaspoonfuls of the mixture is given four or five times a day. The intestinal colic disappears soon after the beginning of the treatment, the stools become normal in from three to six days.

Paris Médical

63: 341 356 (April 9) 1927

Note on Acrodynia M Pehu and P Ardisson.—p 341.
Joint Lesions of Typhoid Origin H Schaeffer and R. Liège.—p 346
*Resorcin Flocculation Test in Tuberculosis R Goiffon and H Pretet.—p 349.
Therapeutic Methods in Scabies Veyrières.—p 353

Value of Resorcin Flocculation Test in Tuberculosis.—Goiffon and Prétet employed resorcin in the flocculation test of serums from 200 tuberculous and nontuberculous patients. In the progressive form of tuberculosis, the photometric index of the flocculation was in the zone included between the 15th and 40th degrees After the tuberculous process became stationary or was cured, the photometric index dropped to normal In serofibrinous pleurisy, flocculation of the serum was intense in the beginning of the disease; it became unappreciable after resorption of the fluid. In healthy persons, the reaction was always negative In patients with a nontuberculous disease, the reaction was positive in 9 per cent; this occurred most frequently in those with skin eruptions or with hemorrhages A curve indicating successive changes in the flocculation test may be valuable in the prognosis of tuberculosis

Presse Médicale, Paris

35: 465 480 (April 13) 1927

*Roentgenotherapy of Spinal Cord Tumors R Ledoux Lebard and E Piot.—p 465
*Lesions of the Hand from Indelible Pencils. M. Iselin.—p 467.

Roentgen Rays in Treatment of Tumors of the Spinal Cord.—Ledoux-Lebard and Piot emphasize the value of roentgen rays in diagnosis and treatment of tumors of the spinal cord. Roentgen-ray examination preceded by injection of lipiodol, enables one to locate exactly the seat of the tumor; after operation roentgen rays are used to complete the cure. The field of irradiation should exceed the limits of the region of operation From 500 to 1,000 Behnken units of deeply penetrating roentgen rays are applied at each exposure; the exposures are repeated at one or two day intervals for three or four weeks. A second series of exposures may be given after a three months' rest. With this method complications have never been observed. In three patients with sarcoma, lymphosarcoma and glioma, respectively, operation supplemented by roentgenotherapy brought about recovery. In one case, the clinical cure is already of three years' standing. In a fourth case, of inoperable angioma, roentgenotherapy used alone resulted in slight improvement.

Lesions of the Hand from Indelible Pencils.—Iselin treated an ulcer of the forefinger, which followed pricking with an aniline pencil. Pricking with an indelible pencil containing methyl violet produces swelling, with a blue discoloration of the skin. If the dye remains long, necrosis of the tissues necessitating amputation of the finger usually occurs. This chemical necrosis is an aseptic one. On operation all dyed tissues should be thoroughly removed. In the case described, incision of the lesion was followed by an atonic ulcer with a serous discharge. After four exposures to ultraviolet rays the ulcer, which had persisted for two months, was healed

Schweizerische medizinische Wochenschrift, Basel

57: 289 312 (March 26) 1927

Treatment of Fracture of the Radius A Brunner.—p 289.
Diet Before and After Operations E Baumann.—p 291
Intravenous Administration of Ergotamine Tartrate M Wetterwald.—p 292
*Carbohydrate Metabolism and Ammonia Formation A Gigon.—p 294.
Skin Disturbances from "Sanocrysin" E. Ramel and L Michaud.—p 296

Carbohydrate Metabolism and Formation of Ammonia in the Blood.—Gigon found that oral administration of ammonium chloride, ammonium carbonate or urea causes not only hyperglycemia, but also lowering of the total carbon and nitrogen of the blood and increase in ammonia When he injected dextrose into an animal thus treated, the carbon and nitrogen increased to almost normal levels and the blood ammonia promptly decreased The latter is probably combined with some derivative of the dextrose It is surprising that the hyperglycemia which occurs after administration of ammonium salts does not produce the same effect Perhaps the sugar circulates here in a different form An intravenous injection of urea does not increase the ammoniemia Urea administered by mouth causes acidosis of the blood; when injected subcutaneously, slight alkalosis results.

Policlinico, Rome

34: 415 450 (March 21) 1927

*Nongonorrheal Vaginitis L Tommasi.—p 415
General Paralysis in Sicily V. Cuccia.—p 421
Meningitic Form of Pernicious Malaria E Garrone.—p 426.

34: 451-486 (March 28) 1927

Dispensary for Prevention of Rabies V Puntoni.—p 451
Foreign Bodies of the Respiratory and Digestive Tracts F Lasagna.—p 454
Mediastinal Lymphosarcoma M Martinelli.—p 456
Manual Separation of Pleural Adhesions G Luzzatto Fegiz.—p 459

Nongonorrheal Vaginitis in Children.—Tommasi is convinced that it is frequently difficult to affirm or deny the gonorrheal nature of vaginitis in children A negative result on microscopic examination does not solve the problem and apparently positive reports do not prove gonorrhea beyond doubt—especially if the examination is made by a practitioner. The urethra is involved in more than 90 per cent of the cases of true gonorrhea The disease is acute and gonococci are present in pure culture in the beginning. The inflammation invades the entire vagina—not only its lowest part.

Riforma Medica, Naples

43: 241-264 (March 14) 1927

Motor Function of the Stomach F. Battistini.—p. 241.
New Colonic Reflex U. Baccarani.—p 247.
Sedimentation Test in Appendicitis. A. Violato.—p 248.

Treatment of Enteritis. C. Pacelli.—p 260.
Sulphur Treatment of Malignant Tumors. D. Campanacci —p. 262.

43: 265-288 (March 21) 1927

Deferring Old Age. A. Ferrannini —p 265.
Treatment of Acute Appendicitis. D. Giordano —p 266.
Physical Chemistry of Effusions G. Melli—p 269
Primary Tuberculosis of the Breast. M. d'Arrigo —p. 271.
*Syphilis in the Third Generation. M. Rega —p 281.
Vesalius. D. Barduzzi —p. 284.

Syphilis in the Third Generation.—Rega's patient had syphilis of the liver—this was apparently a case of syphilis in the third generation. He recovered after specific treatment.

Archivos de Endocrinología y Nutrición, Madrid

4: 253-300 (Nov.-Dec.) 1926

*The Blood Sugar in Muscular Atrophy. G. Marañón —p. 253.
Renal Diabetes. E Carrasco Cadenas —p. 262.
*Acid Basic Balance in Diseases of the Thyroid. J. Morros Sarda —p 279.

Induced Glycemia in Muscular Atrophy.—In four cases of progressive muscular atrophy, Marañón studied the blood sugar, fasting and half an hour and one hour after peroral administration of 25 Gm. of glucose in 200 cc. of water In all, the sugar metabolism exhibited a prediabetic lack of balance. The extent of the induced hyperglycemia paralleled that of the atrophic process.

Acids and Bases in Diseases of the Thyroid.—Morros found a low alkali reserve in the blood plasma in nine cases of hyperthyroidism. The figures were normal in a case of hypothyroidism. The existing acidosis did not bear any relation to the severity of the clinical condition nor to the basal metabolism. These observations support those of Walinski and Herzfeld and contradict those of de Cires and Silva. Morros plans to try thyroid medication in normal persons to see if the alkali reserve will decrease. Insulin and alkalis are also being tried in his cases of hyperthyroidism.

Archiv für Gynäkologie, Berlin

129: 459 1080 (Jan. 31) 1927

*The Endometrium During Menstruation. P Bohnen —p 459.
Colloid Chemical Studies of the Lower Segment of the Uterus K. Lundwall —p 473.
Pseudoluxation of the Knee Joint and Luxation of the Foot as Birth Injuries. A. Szenes —p. 482.
Gonorrhea and Puerperium. L Bodnar —p. 506
*The Myoma Ovary L Kraul —p. 526
*Intermediary Fat Metabolism in Pregnancy. O. Bokelmann and A. Bock —p 541.
*Menstruation and Pregnancy in Kyphoscoliosis E Klaften —p. 550.
Infant Mortality and Use of Forceps O. Pritzi —p 592
Capacity of the Intervillous Space of the Human Placenta P. Jonen —p. 610.
Cases of Spontaneous Rupture of the Cord. I Schereschewsky —p 620.
Tar Cysts of the Ovary. O Brakemann —p 632
Syncytioma Malignum of the Tube After Extra Uterine Pregnancy. P. Klein —p. 662
Fibroma of the Chorion and Holoacardius Amorphus W Nitschmann. —p 674.
Clinical Importance of Hydrogen Exponents. H. Sellheim —p 683.
Syphilis of the Fetus and Placenta G Raschhofer —p 696
Frequency of Univitelline Twins H Orel —p 719
*Lactic Acid of the Blood During Pregnancy and Labor. O Bokelmann —p. 726
*Ovarian Hemorrhages. J. Berecz —p 736
*Influence of Ovarian Function on Basal Metabolism A Heyn —p 760.
*Anemia of Pregnancy of Pernicious Type P. Esch —p 788
Lactic Acid of the Blood in Toxicosis of Pregnancy. O. Bokelmann —p. 802.
*Comparative Studies on the Biology of the Vagina W. Biemicker —p. 807.
*Biology and Chemism of the Vagina in Pregnancy. R. Kessler and E. Uhr.—p 844
*Biology of the Vagina in Childhood. R. Kessler and H D. Röhrs —p 856
Mesodermal Mixed Tumors of the Uterus. A Gamper —p 878
*Late Results of Eclampsia. H Nevermann —p 891
*Vaginal Secretion During Menstruation. R. Demme and U. Baltzer —p. 900.
*Bacteriology of the Vagina R Demme —p 913
*Postoperative and Puerperal Thrombosis and Embolism. P. Schumacher. —p 929.
*Idem R T. von Jaschke —p 951
Interfereometric Studies of Endocrine Disturbances K Hellmuth.—p. 965.
Genesis of Acidosis of Pregnancy. O. Bokelmann —p. 987.
*Roentgen Ray Diagnosis of Pregnancy. M. Leiser.—p 1036.
Eclampsia and Vagotonia. N. Louros —p. 1049.
*Etiology of Eclampsia. N. Louros and Schmechel —p. 1060.

The Shedding of the Endometrium During Menstruation.—The material studied by Bohnen represents the collection of many years. He found that the individual phenomena varied in different women and in different menstruations in the same woman, but that Schroder's conception of the functionalis (compacta and spongiosa) was confirmed and that menstruation is characterized anatomically by a shedding of the spongy and compact layers of the mucosa down to the basal membrane.

The Myoma Ovary.—Kraul made histologic studies of the ovaries of women with uterine myomas. The changes found corresponded to an intensification and lengthening of functional activity and were attributable to the pelvic hyperemia caused by the myoma. They bore an analogy to the changes present during pregnancy, but were less pronounced. The entire ovary was increased in size and turgescent; the corpora lutea were particularly large and well nourished; the theca interna was hypertrophied; hyaline degeneration was postponed. These changes were found chiefly in connection with submucous or centripetally growing intramural myomas. The effort made by the uterine muscle to expel these growths brings an increased amount of blood to the region and results in pelvic hyperemia.

Intermediary Fat Metabolism and Pregnancy.—Under normal nutritional conditions, there is a slight increase in the acetone bodies in the blood in physiologic pregnancy and it appears that acidosis in pregnancy is largely determined by these substances. Bokelmann and Bock found that in pregnant women, in contradistinction to nonpregnant women, a slight overamount of fat in the diet, the quantity and quality of carbohydrates remaining unchanged, was followed by increase in the acetone body index. They believe that endogenous metabolic processes are responsible

Menstruation and Pregnancy in Kyphoscoliotic Women.—In severe kyphoscoliosis the onset of menstruation is likely to be retarded. Other signs of ovarian hypofunction are also common. The reason may lie in deficient blood supply due to interference with the circulation, caused by the structural deformity, or endocrine disturbances may be responsible for both conditions. The prognosis of pregnancy and labor depends largely on the condition of the lungs and heart. The heart requires special care. The greatest number of deaths take place late in the puerperium and are caused by bronchitis and pneumonia. Klaften analyzes the course of pregnancy and the puerperium in seventy-six cases. In sixty-one delivery took place at term; spontaneous abortion occurred in six, in six further cases pregnancy was interrupted because of decompensation; labor was induced prematurely in three, in one case supravaginal hysterectomy was performed.

The Lactic Acid of the Blood in Pregnancy and Labor.—In forty-eight normal nonpregnant women the average lactic acid content of the blood was found to be 17.3 mg. per hundred cubic centimeters. In fifty examinations of the blood in physiologic pregnancy, from the second month to term, the average was 20.8 mg per hundred cubic centimeters In the first stage of labor, the average in nine cases was 24.3; in four cases in the second stage the average was 44.9, in five cases immediately after the birth of the child, 45.6 mg per hundred cubic centimeters. The increased concentration in pregnancy and labor may mean that oxidation of lactic acid to carbonic acid and water is hindered, or that resynthesis to glycogen is disturbed In a further study Bokelmann found that the lactic acid content of the blood in toxemia of pregnancy was higher than in normal pregnancy; in one case (preeclamptic) it reached 36.1 mg. per hundred cubic centimeters. In manifest eclampsia it was still higher, in one case 68.4, and during labor (first stage) in eclampsia it reached 81.9 mg He lays emphasis on the fact that the high lactic acid concentration in eclampsia is the result, not the cause, of the convulsions and points out that the acetone body acidosis in hyperemesis is likewise a symptomatic acidosis.

Ovarian Hemorrhages.—The ovary has a tendency to bleed, on account of its vascularity and of the opportunity afforded each month with the bursting of the follicle. Hyperemia of the genital organs, whether of physiologic or unphysiologic origin, nutritional disturbances and infections are etiologic factors. The pathologic importance of these hemorrhages depends on their site and extent. Bleeding into the abdominal cavity usually forms a retro-uterine hematoma, but in rare cases it has proved fatal. Berecz examined the ovaries removed at operation in 1,059 cases and found signs of hemorrhage in 108 cases. In only twelve had the bleeding produced symptoms. In these the symptoms resembled those of tumor, extra-uterine pregnancy, appendicitis or torsion of the pedicle of an ovarian cyst. The course may be acute or chronic. Small hemorrhages do not require treatment. Conservative treatment directed toward a supposed inflammatory process often succeeds. Uterine myoma, ovarian tumor or retroflexion of the uterus is usually found with ovarian hemorrhage; if on operation for one of these conditions a hematoma is found, the entire ovary should be removed, since it no longer contains functioning tissue. If in the course of any operation hemorrhagic foci or either cysts or a corpus luteum on the point of rupturing are discovered, they should be excised to avoid hemorrhage, for which the circulatory disturbance consequent on the operation might give the occasion.

Influence of Ovarian Function on Basal Metabolism.—Basal metabolism was not found to be affected by the menstrual cycle in healthy women or by dysmenorrhea. High grade ovarian insufficiency (primary amenorrhea) was accompanied by a decrease of about 10 per cent. The decrease was slight and inconstant in the lower grades of ovarian insufficiency. In about 25 per cent of the cases of hemorrhagic metropathy, the basal metabolism was increased more than 10 per cent. In about 50 per cent of women with myoma, it was increased from 10 to 20 per cent. Castration was followed in 25 per cent of the cases by a distinct decrease, which, however, proved temporary, being present from two to three months after the castration, but disappearing after from six to nine months. In the other cases the rate was normal. In women in the natural menopause, the rate varied in both directions; in some cases it rose as much as 10 per cent. By ovarian preparations it was possible to raise the metabolic rate of castrated women with decreased metabolism to normal, but not above normal. Heyn regards the influence of the ovaries on metabolism as secondary, through its action on thyroid function. In amenorrhea he sees the result of insufficiency of the endocrine system, not of one gland alone.

Anemia of Pregnancy of Pernicious Type.—The differential diagnosis from true pernicious anemia can be made only in the cases that survive and by the fact that they go on, without remissions, to permanent recovery. Leukopenia and glossitis are usually absent. The disease begins in the second half of pregnancy and improvement cannot be looked for while the pregnancy continues. The birth is usually premature, rapid and attended with little loss of blood in the third stage. Pain is slight. These peculiarities are connected with the lack of oxygen in the blood. After the birth the woman becomes suddenly worse and dies or she begins to improve. Improvement may be slow or startlingly rapid. Esch has had six cases with three cures. He does not believe sterilization to be indicated. The question of interrupting the pregnancy must be decided individually for each case: on principle it is justified.

Comparative Studies on the Biology of the Vagina.—Bremicker reviews the literature on the histology and bacteriology of the vagina in various species of mammals and reports his own studies on a large number of animals. The normal vagina of the cow, hog, sheep, guinea-pig and rabbit contains no bacteria. The reaction is in general alkaline. The glycogen metabolism, present in the human species, is absent and the quantity of glucose is small. Attempts at infection in the rabbit, cow and guinea-pig showed that the vagina of these animals possesses the power of self-cleansing in a high degree, but this power is connected with the cells of the lining rather than with the secretion. In the long-tailed monkey the reaction was found to be slightly acid, *Bacillus vaginalis* was present in large numbers, glucose was present in the same quantity as in the human species and glycogen was present in the wall.

Biology and Chemistry of the Vagina in Pregnant Women.—In the vagina of the pregnant woman, Kessler and Uhr found an increased effort at self-cleansing, manifested in high acidification and relatively high glucose values. An acidity represented by p_H 4 in a glucose medium of from 2 to 4.5 per cent guarantees normal biologic conditions, from which a smooth puerperium may be expected.

Biologic Studies of the Vagina in New-Born Infants and in Little Girls.—Kessler and Röhrs found it impossible to obtain dependable material for bacteriologic cultures in the case of living children, but their researches brought out the following facts: for the first few hours after birth the vagina is sterile; thereafter *Bacillus vaginalis* is found and this continues throughout childhood as the sole physiologic micro-organism of the vagina. The biologic conditions in the child's vagina are the same as in the sexually mature woman's. Twelve hours after birth the p_H of the vaginal secretion was 5; during the next few days, from 4 to 4.5; at the end of two weeks from 5 to 6. In the strong, healthy child of a few months old, it is again between 4 and 4.5. The quantity of the secretion and the appearance of the vaginal contents depend on ovarian function, but this is not true of the acidity.

The Fate of the Eclamptic Patient.—Sixty eclamptic patients were examined after an interval of from one to twenty-three years. Twenty-seven did not complain of any symptoms nor present changes attributable to the eclampsia. Thirty made various complaints, in which severe headache and weakness of memory predominated. In three who did not make any complaint, careful examination revealed lesions that were probably the result of the eclampsia. Most of the symptoms were due to injury to the central nervous system. Edema of the legs was present in five cases. Chronic nephritis was not found in any case. There is some evidence that the renal changes, which often persist for a long time after recovery from eclampsia, are nephrotic changes in the tubules. For the high blood pressure frequently seen during the first few years, changes in the blood vessels and vasomotor apparatus are responsible. Since their eclampsia, eight of the women had gone through one normal pregnancy, one had gone through five, one had had two normal pregnancies and six abortions. Four of the women had suffered from edema during pregnancy, two from nephropathies. There was recurrence of eclampsia in four women, in one in each of two later pregnancies; one had had one delivery with eclampsia and one normal delivery. The other two had each had a number of abortions in addition to one delivery with eclampsia.

Biologic Chemistry and Bacteriology of the Vaginal Secretion During Menstruation.—In all of the fifty cases examined by Demme and Baltzer, the acidity of the vaginal secretion underwent a very considerable decrease during menstruation and the vaginal flora deteriorated. The changes persisted for a number of days after the menstruation ceased. These conditions, which represent lowered resistance to pathogenic bacteria, are in accord with the clinical experience of former times and justify the efforts, expressed in the folkways of various races, to protect the menstruating woman from genital contamination.

The Micro-Organisms of the Vagina and the Power of the Latter to Cleanse Itself.—Demme investigated the acid-forming capacity and the acid tolerance of various bacteria. For each variety the limit of tolerance was found to correspond to the maximum production. He gives a table showing the figures for different varieties of the streptococcus, staphylococcus, *Bacillus coli*, *Bacillus vaginalis* and others, and points out that the limit of acid tolerance of all the clinically pathogenic bacteria lies below the average acidity of the normal vaginal secretion of women with healthy genital organs, while the limit of tolerance of the normal inhabitant of the vagina, *Bacillus vaginalis*, is far above it. The capacity of bacteria to form acids and the high acid tolerance of the *Bacillus vaginalis* are the main factors in the self-cleansing power of the vagina. The alkaline secretion of the cervical mucous membrane and the alkaline tissue fluid produced by autolysis of the epithelial cells shed by the vaginal wall are, however, necessary to keep the acidity of the vaginal contents below the point at which the *Bacillus vaginalis* itself would succumb.

Causes of Postoperative and Puerperal Thrombosis and Embolism.—Schumacher analyzes the material of Jaschke's clinic from 1918 to 1925. Conditions favoring general retardation of the circulation, such as cardiovascular disturbances, adiposity and postoperative pulmonary disease, were present in more than half of the cases of postoperative thrombosis of the deep veins of the leg and in 70 per cent of the cases of postoperative embolism. A causal connection between retardation of the blood stream and the occurrence of thrombosis in a varix or a superficial vein of the leg could not be definitely established. In the cases of puerperal thrombosis and embolism, a clinically demonstrable general slowing of the circulation was not frequent, but the conditions favoring retardation of the venous flow in the lower extremities were present in exceptional degree. Vaginal operations showed a special tendency to be followed by embolism. Manual separation of the placenta and tamponade of the uterus favored thrombosis and embolism. Infection was present as a factor in about 63 per cent of both postoperative and puerperal thrombosis of deep veins and in 55 per cent of the cases of postoperative embolism. He believes there is less danger of thrombosis and embolism with spinal than with chloroform or ether anesthesia. Jaschke emphasizes the preponderant rôle of retardation of the blood stream in the causation of thrombosis and embolism and urges that the surgical and obstetric patient be got out of bed early. He recommends active and passive motions of the arms and legs and "respiratory gymnastics," begun on the day of operation and carried out energetically, at least four times a day in the case of the movements and every five or ten minutes, if possible, in the case of the breathing exercises. He warns, however, that if the heart muscle is in bad condition or if the veins are sclerotic, early getting up and too vigorous gymnastics and massage may do harm. He practices systematic digitalization of the heart before operation.

Roentgen-Ray Diagnosis of Pregnancy.—Leiser has found that pregnancy can always be diagnosed with the roentgen ray from the fourteenth week. He discusses the technic and reading of the films. He does not use pneumoperitoneum, because of the risk of setting up uterine contractions.

Experimental Studies on the Etiology of Eclampsia.—In studies which included artificial dilatation of the blood vessels in the region of the uterus in rabbits, Louros and Schmechel believe that they have proved the causal connection between vagotonia and eclampsia. They maintain that the vagal predominance is caused by defective metabolism of proteins, fats and mineral salts and by disturbance of the acid-base equilibrium, and that the ovum itself, together with the woman's constitution, is responsible for the inability of the pregnant woman to maintain metabolic equilibrium. The sperm also seems to have an influence. The therapeutic conclusion is that a superabundance of protein, fat, salt or water is to be avoided in the diet of the pregnant woman.

Archiv für klinische Chirurgie, Berlin

144: 1-243 (Jan. 29) 1927

Fistulas and Suppuration Around Ligatures After Operation for Goiter. G. Eichelter.—p. 1.
The Flow of Bile After Cholecystectomy. J. Vigyázó.—p. 18.
Surgery of the Gallbladder and Bile Ducts. O. Orth.—p. 31.
Regeneration of Vessels in Joint Tuberculosis. M. Jakob.—p. 43.
*Survival of Tissues in the Oxygen Chamber. E. Liek.—p. 56.
*Fulminating Osteomyelitis. F. Schürer-Waldheim.—p. 65.
Carbon Dioxide Snow Treatment of Acute Inflammatory Processes in the Skin. F. Kroh.—p. 77.
Duodenal Stenosis from the Clinical Standpoint. R. Janker.—p. 101.
Late Results of Operation for Appendicitic Abscess. F. Schück.—p. 115.
Pneumocephalus and Liquorrhoea Nasalis After Skull Fracture. T. Eggers.—p. 121.
Congenital Defect of the Pectoral Muscle and Accident. E. Melzner.—p. 131.
*The Sex Cycle and Breast Tumors. L. Moszkowicz.—p. 138.
Position and Ligamental Apparatus of the Stomach. A. S. Maksimowitsch.—p. 162.
Combined Musculoplasty in Paralysis of the Deltoid. E. P. Burzewa.—p. 186.
*Intra-Abdominal Pressure and Surgery of the Stomach. N. J. Krause.—p. 201.
*Insulin Treatment of Postoperative Acidosis. E. L. Beresow et al.—p. 222.
A Case of Enterocystoma. M. Iolkin.—p. 238.

Survival of Tissue in the Oxygen Chamber.—Liek removed bone and tissue of other organs from rabbits, kept the tissues in oxygen tubes for from one to fourteen days and then implanted them in the omentum or muscle of the donor animal. After a number of days, the animal was killed and the implant examined. Control experiments were made. It was found that many organs beside bone survive explantation for a surprisingly long time, and that the length of survival was increased by exposure to oxygen. This was true of the thyroid, ovary, testis and salivary glands.

Acute Osteomyelitis of Rapidly Fatal Course.—Six cases are described. In all the exciting cause was the staphylococcus pyogenes aureus. A portal of entry in the skin was demonstrable in two cases and Schürer-Waldheim thinks it probable that *Staphylococcus aureus* always enters from the skin, while other micro-organisms favor other portals. The patients were children between 3 and 15 years old. It is particularly pointed out that the earliest death did not occur until seventy-two hours after the onset; therefore, even in fulminant cases there is time for treatment, if the diagnosis is promptly made. Early operation, combined with vaccine treatment, is urged. If the disease is not recognized until late, all treatment is useless. Abscesses and infarcts were found at necropsy in the lungs, heart muscle, liver and kidneys.

The Sex Cycle and Tumors of the Breast.—Moszkowicz studied the tissue changes in the mammary gland that occur in connection with dysfunction of the ovary. The frequency of hyperplasia among these is noticeable. Adenoma, fibroadenoma, cyst-adenoma, etc., arise, he affirms, from disturbed ovarian function. The same cause may be responsible for chronic conditions of irritation, preparing the ground for carcinoma.

Intra-Abdominal Pressure in Relation to Surgery of the Stomach.—Krause studied on the cadaver and on models the conditions governing maintenance of position of the stomach when the body is upright, and made bedside observations on the results of influencing intra-abdominal pressure. The distribution of pressure within the abdominal cavity depends on the mechanical structure of the walls and is governed entirely by the reciprocal relations of the bony skeleton and the flexible wall. It is caused by the elastic tension of the abdominal musculature. Concavity signifies negative pressure, convexity positive pressure. In the subdiaphragmatic space negative pressure is inevitable, in the upright position of the body. Under negative pressure a hollow organ becomes distended and a relatively greater muscular energy is required to contract its walls. Inside the stomach, Krause asserts, a pressure equal to the atmospheric pressure is maintained by active contraction of the stomach wall, but when this wall is relaxed, as in atony, the fundus falls mainly under the influence of negative pressure, and the physiologic fixation of the organ is disturbed. Purging and fasting before operation disturb the intra-abdominal equilibrium and favor negative pressure in the epigastrium. When signs of negative pressure in the upper abdomen, such as sinking in of the epigastrium, appear after operation, the pelvis should be raised. He has seen the symptoms of early postoperative dilatation of the stomach disappear promptly when the patient's pelvis was raised.

Treatment of Postoperative Acidosis.—Beresow, Kuchowarenko and Lifschütz believe that hormones are probably the cause of the temporary disturbance of carbohydrate metabolism which appears after operations, and that the pancreas plays an important part here. Hence, insulin is the appropriate remedy. Preventive treatment was tried in eighteen unselected cases; in four the anesthetic was chloroform, in the others procaine hydrochloride. On the day before the operation 400 cc. of a 5 per cent solution of dextrose and 10 insulin units were injected intravenously. On the day after operation 10 insulin units without dextrose was given to some of the patients. On the other days insulin was given after a glass of sweetened tea. Acetonuria occurred in only one patient, a girl, aged 10, after appendectomy under chloroform. It lasted one day. Therapeutically the treatment was given in four cases of postoperative acidosis with severe acetonuria and in one case of latent acidosis. In these cases all the symptoms subsided on the day of treatment, except that in one the acetonuria continued into the next day. In three cases of surgical shock with high blood sugar, treatment with 20 insulin units and 500 cc. of a 5 per cent dextrose solution was followed by gradual subsidence of symptoms, beginning one half hour after administration; in one case 10 insulin units sufficed. Seven cases of resection of the stomach for cancer (cachexia and high grade anemia) were treated for two or more days before operation with large doses of glucose and daily injections of 10 insulin units. The treatment was continued for four or five days after operation with varying amounts of glucose, and with drop proctoclysis to offset the diuretic action of the insulin. After five days large amounts of glucose were given and the insulin stopped. The results were excellent.

Deutsches Archiv für klinische Medizin, Leipzig

154: 97-256 (March) 1927

*Arginine in Cystinuria. F. A. Hoppe-Seyler.—p. 97.
*Metabolism of Minerals. C. and M. Oehme and H. Wassermeyer.—p. 107.
Mechanism of the Semilunar Valves. M. Hochrein.—p. 131.
*Diameter of Erythrocytes in Endocrine Diseases. G. Holler and O. Kudelka.—p. 165.
*Idem in Diseases of the Pancreas. G. Holler and O. Kudelka.—p. 172.
*Fatty Substances in Benzene Poisoning. N. Schustrow and F. K. Letawet.—p. 180.
*Kations and Anions of Serum. W. H. Jansen and A. M. Loew.—p. 195.
Acetonitril Test in Persons with Vegetative Stigmata. R. Salomon.—p. 221.
Determination of Urobilinogen. A. Adler.—p. 238.
Action of Choline on the Circulation. E. Schliephake.—p. 249.

Arginine in Cystinuria.—Hoppe-Seyler isolated arginine from the urine of a patient with cystinuria. He claims that this is the first time that its presence in such a case has been established.

Metabolism of Minerals.—Oehme and Wassermeyer found that the mineral balance depends not only on the added salts, but also on the basic food. Antagonistic actions are found, but absolute amounts of the salts are also important. For instance, on a diet poor in calcium and phosphorus, sodium chloride will cause a negative balance, potassium chloride a retention of these minerals. Sodium chloride may shift the acid-alkali balance toward either side—according to the basic diet. The action of the bicarbonates of sodium and of potassium on the chlorine balance depends on the sodium-potassium ratio of the food.

Diameter of Erythrocytes.—Holler and Kudelka found the average diameter of erythrocytes increased in chronic pancreatitis. It is, as a rule, decreased in diabetes and in disturbances of the thyroid. Only rarely is the diameter increased in the latter group.

Fatty Substances in Benzine Poisoning.—Schustrow and Letawet continued their experiments on the relation of fats and lipoids to benzine poisoning. They conclude that the lowered amount of cholesterol in the blood protects against the action of benzine. They believe that a fatty diet is injurious in such subjects.

Kations and Anions of Serum.—In a large material Jansen and Loew determined the sodium, potassium, calcium, magnesium, chlorine, phosphorus, sulphur and carbon dioxide content of normal serums.

Deutsche medizinische Wochenschrift, Berlin

53: 517-558 (March 25) 1927

*Predisposition and Nutrition. T. Saiki.—p. 517.
*Treatment of Hemorrhoids. I. Boas.—p. 519.
Treatment of Cancer. P. Lazarus.—p. 521. C'cn.
Paratyphoid Problem. M. Müller.—p. 524.
Insulin Treatment of Underweight Tuberculous Patients. R. I. Lepskaja and L. M. Rachlin.—p. 527.
*Temperature Sense. H. Hahn.—p. 528.
Action of Mineral Earths. R. Meissner.—p. 530.
Treatment of Syphilis. A. Buschke and E. Langer.—p. 531.
Treatment of Syphilis of the Circulatory Apparatus. N. Jagić.—p. 535.
Treatment of Syphilis in Pregnancy. H. Runge.—p. 536.
Treatment of Syphilitic Infants. J. Cassel.—p. 538.
Encephalitis. E. Siemerling.—p. 539.
Advances in Roentgenology. A. Lorey and A. Wierig.—p. 541.
Technical Novelties. M. Schütz.—p. 542.

Predisposition and Nutrition.—Saiki reviews the investigations made in his institute by various workers. Strychnine has less effect on avitaminotic (A, B and C) animals than on controls. Renal and biliary calculi form in animals on a diet that does not contain vitamin A and calcium or phosphates. Administration of vitamin A caused disappearance of renal calculi formed under these conditions (roentgen-ray control). Hyperkeratosis, papillomas and cancer develop in white rats on a diet lacking in vitamin A except for small amounts given from time to time to prevent death. Wounds heal quicker under administration of vitamin A. While corned beef does not impair fecundity, canned salmon, given as the only source of protein, results in maldevelopment of offspring. Administration of fried eels causes sterility.

Treatment of Hemorrhoids.—Boas aspirates internal hemorrhoids with Bier's pump and injects from 0.5 to 2 cc. of absolute alcohol into the varicosities. He uses local anesthesia obtained by rectal injection of 50 cc. of a 0.5 per cent solution of procaine hydrochloride with epinephrine. The injected nodes are replaced immediately. With external hemorrhoids the treatment is usually followed by gangrene and the healing takes longer (from eight to ten days). In acute strangulation of hemorrhoids he abstains from treatment. The condition is not dangerous and leads to spontaneous recovery. He does not treat bleeding hemorrhoids in patients with hypertension, because he found that in some the blood pressure increased after the treatment.

Temperature Sense.—Hahn found that the sum of the temperature to which the skin is adapted and of the minimum increase in temperature necessary to produce a sensation of heat is within certain limits a constant (about 34 C.). For instance, a skin adapted to 33.5 C. feels the increase of 0.3 to 0.1 C. When it is adapted to 30 C. it requires 4 C. and at 10 C. fully 24 C. are necessary to produce a sensation of heat. There are some phenomena which might be best explained by the presence of different nervous elements responding to different temperatures.

Klinische Wochenschrift, Berlin

6: 529-576 (March 19) 1927

*Dynamic Examination of the Pulse. H. Straub.—p. 529.
*Antirachitic Vitamin. F. Holtz.—p. 535.
Problem of Neurosis. F. Kraus.—p. 537.
*Diabetes Refractory to Insulin. H. Häusler and F. Högler.—p. 541.
Registration of Electrocardiogram. E. Mosler and W. Gaarz.—p. 543.
Experiments in Protein Treatment. A. Wolff-Eisner.—p. 545.
*Acetone Bodies in the Blood. O. Bokelmann and A. Bock.—p. 549.
*Ovarian Grafts and Reticulo-Endothelial System. W. Arnold.—p. 551.
Different Forms of Nevus. Meirowsky and Leven.—p. 552.
*Water Metabolism and Antagonism of Spleen and Thyroid. L. Asher and K. G. Dieticker.—p. 552.
Supravital Staining of Erythrocytes. E. Maurer and D. Mileff.—p. 552.
Determination of Atropine in Nightshade Poisoning. R. Meier.—p. 554.
Nontuberculous Pulmonary Hemorrhages. E. Scheidemandel.—p. 554.
Housing Conditions of Large Families. R. Engelsmann.—p. 557.
Timing Apparatus for Clinical Tests of Muscles. E. Blumenfeldt.—p. 573.
*Cure of Hay-Fever. Hamm.—p. 574.

Dynamic Examination of the Pulse.—Straub discusses critically the underlying principles and the clinical results of Sahli's sphygmobolometry. He refuses to accept any part of it.

Antirachitic Vitamin.—Holtz reports on the teamwork done by Windaus, Pohl and himself in Göttingen, Hess in New York and Rosenheim in London. The substance which absorbs the ultraviolet spectrum and which they identified with the provitamin D was isolated from fungi and called ergosterol. It is a sterol with three double bindings and its absorption spectrum disappears after irradiation. Doses of 0.001 mg. prevented rickets in rats.

Diabetes Refractory to Insulin.—Häusler and Högler made experiments with the blood from a diabetic patient who was not influenced by insulin treatment. While the blood plasma from other diabetic patients inhibits the fixation of dextrose to erythrocytes, no such inhibiting action was present in the blood plasma from this patient. On the other hand, the patient's corpuscles did not accept more dextrose after addition of insulin, until they had been repeatedly washed. They conclude that diabetes of this type is not due to an insufficiency of the islands of the pancreas. It seems that it is due to the inability of tissue cells to respond to the action of insulin.

Acidosis in Vomiting of Pregnancy.—Bokelmann and Bock found from 60 to 100 mg. of acetone bodies per hundred cubic centimeters of blood in light cases of vomiting of pregnancy. In grave cases the concentration rose to from 100 to 400 mg.

Ovarian Grafts and the Reticulo-Endothelial System.—Arnold found complete resorption of ovarian grafts in rabbits. It made no difference whether the animals had been injected previously with trypan blue (to "block" the reticulo-endothelial system) or not.

The Spleen and Water Metabolism.—Asher and Dieticker found increased water metabolism in splenectomized animals. They believe that the spleen checks the hyperactivity of the thyroid.

Treatment of Hay-Fever.—Hamm treats hay-fever with intranasal diathermy.

6: *577 624 (March 26) 1927*

Alcohol Psychoses M. Rosenfeld.—p. 577.
Irradiated Ergosterol P. György.—p. 580.
*Action of Anorganic Iodine. I. Abelin.—p. 584.
*Lactic Acid Fermentation of Surviving Tissue A. Loeser.—p. 587.
Malaria Treatment of Neurosyphilis G. L. Dreyfus and R. Hanau.—p. 590.
Pneumonephrography in Chronic Pyuria of Infants. J. Jahr and W. Hirsch.—p. 595.
*Glycocoll Treatment of Hives K. Glaessner.—p. 597.
Causes of Premenstrual Acidosis A. Szarka and O. Waldbauer.—p. 599.
Bromine in *Blood* and Cerebrospinal *Fluid J. Barnewitz.—p. 600.*
Experiments on *Herpes E. Gildemeister and K. Herzberg.—p. 603.*
Diagnosis of Univitelline Twins P. J. Waardenburg.—p. 603.
*Physiology of Contractions of the Ureter. H. Rothmann.—p. 603.
Cause of Onset of Labor H. Knaus.—p. 604.
*Coloring the Cornea with Gold Chloride. H. Kottenhahn.—p. 604.
The Sedimentation *Test. J. Popp and M. Grünbaum.—p. 605.*
*Inhibition of Bacteria in the Small Intestine L. Arnold.—p. 607.
Bilirubin Colorimeter E. Meulengracht.—p. 623.
Reagent for Urochromogen, Bilirubin and Urobilinogen M. Weiss.—p. 623.

Action of Anorganic Iodine.—After repeated failures with addition of iodine to the water in which he kept axolotls, Abelin succeeded in obtaining their metamorphosis by intraperitoneal injections of diluted Lugol's solution. He believes that a compound of iodine with the animal's protein is the active substance.

Lactic Acid Fermentation of Tissues.—Loeser confirms Warburg's results. Living young placenta tissue seems to produce lactic acid even under aerobic conditions. He concludes from some of his experiments that it also has this fermentative action in vivo.

Glycocoll Treatment of Hives.—Glaessner had good results in urticaria—especially in cases associated with Quincke's edema—from daily administration of from 5 to 10 Gm. of glycocoll. He believes that it combines with some toxic substances.

Contractions of Ureter.—*Rothmann found that potassium* chloride, choline and epinephrine enhance the contractions of the isolated ureter. Atropine inhibits them to some extent. Calcium chloride inhibits the contractions; pituitary extract at first accelerates, then paralyzes them.

Tattooing of the Cornea with Gold Chloride.—Kottenhahn recommends Knapp's application of a solution of gold chloride to the leukoma of the cornea after abrasion of the superficial epithelium. The method is easier and much safer than tattooing.

Inhibition of Bacteria in the Small Intestine.—Arnold summarizes the work done by himself and his co-workers on the nature of d'Herelle's phenomenon. When the p_H of the duodenal contents is between *5.5 and 6.5, a substance is produced* which inhibits the growth of aerobic bacteria. He finds it probable that this substance is the source of the transmissible autolysis.

Münchener medizinische Wochenschrift, Munich

74: 441 482 (March 18) 1927

*Action of Synthalin W. H. Jansen and H. Baur.—p. 441.
Experiments on Paratyphoid. W. Seiffert.—p. 445. C'td.
The Cerebrospinal Fluid K. Eskuchen and F. Lickint.—p. 448.
Pituitary Treatment of Primary Atonia of the Uterus. O. Silzer.—p. 450.
Rapid Cure of Furuncle F. Kuhn.—p. 451.
*Danger of Combining Scopolamine with Morphine. F. Panse.—p. 453.
Dosage of Thyroid in Children K. Ochsenius.—p. 454.
Torsion of Uterine Myoma. W. Roloff.—p. 454.
Torsion of *Ovarian Cyst in Child Ohmstede.—p. 455.*
Manslaughter Charge Against Obstetrician A. Döderlein.—p. 455.
Fake Apparatus for the Deaf F. von den Hütten.—p. 456.
Bavarian Regulations for Physicians H. Bergeat.—p. 458.
Expert Testimony in War Invalidism C. Zahn.—p. 459.
German Regulations on Treating Diseases Grassl.—p. 460.
Training of Infants' Nurses J. Schoedel.—p. 460.
Bavarian Public Health Statistics Seiffert.—p. 462.

Action of Synthalin.—Jansen and Baur found similarities as well as differences between the action of insulin and synthalin. Both preparations lower the amount of sugar in urine and blood as well as that of acetone in the urine. Large doses cause alkalosis. There are, however, differences to the disadvantage of synthalin: the latter does not lower the blood sugar so much; it did not seem to prevent gangrene, and permanent absence of sugar from the urine was not obtained. It increases the respiratory metabolism and lowers the respiratory quotient.

Danger of Combining Scopolamine with Morphine.—Panse reports three cases of grave poisoning with the combination of scopolamine with morphine. One patient received an injection of 0.0005 Gm. of scopolamine hydrobromide and 0.02 Gm. of morphine hydrochloride. In another case, the dose was 0.001 Gm. of scopolamine and 0.03 Gm. of morphine; in the third, 0.0004 Gm. of scopolamine and 0.02 Gm. of morphine. Artificial respiration, continued for hours, resuscitated the patients. He advises using scopolamine alone in excited psychopaths. One milligram does not cause any respiratory or cardiac paralysis.

Wiener klinische Wochenschrift, Vienna

40: 377 408 (March 24) 1927

*Nervous Disturbances from Disease of Body Wall F. Hartmann.—p. 377.
Calmette's B C G Immunization E. Suarez.—p. 381.
*Sex Specificity of the Skin E. Herrmann and W. *Schiller.—p. 382.*
Liver Function Tests F. Faltitschek and H. Krasso.—p. 386.
Incarcerated Sliding Hernia of the Ovary A. Marconi.—p. 389.
Limits of Roentgen-Ray Diagnosis O. Maier.—p. 390.
"Whooping Cough and Pregnancy" H. B. Goettsch.—p. 391.
**The Hemolytic Streptococcus* and Scarlet Fever R. Kraus.—*p. 391.*
Value of Rectoscopy G. Lotheissen.—p. *392.*
Nervous Disturbances in Astigmatism K. Lindner.—p. *393.*
Treatment of the Lighter Forms of Psychosis E. Stransky. Supplement.—pp. 1 28.

Nervous Disturbances from Disease of the Skin and Subcutaneous Tissue.—Hartmann believes that there is a widespread disease consisting in a change of the colloid condition of the fluid parts of the skin and subcutaneous tissue into the condition of a gel. Such skin cannot be lifted in a fold, like normal skin, and is sensitive. Sometimes the change is limited to small streaks. These patients have *all the symptoms of neurasthenia, but recover after massage and* application of heat. *Carlsbad treatment is also useful.*

Sex Specificity of Skin.—Herrmann and Schiller injected intracutaneously lipoids obtained from ovaries and testes. They observed after two to four weeks a secondary reaction which occurred in women *after injection of ovarian extracts;* in men, after testicular extracts.

Hemolytic Streptococcus and Scarlet Fever.—Kraus concludes that by using the filtrates on human beings the Dicks found *in an ingenious way the key to the solution of the* scarlet fever problem. He declares that all the postulates are fulfilled for regarding the scarlet fever streptococcus as the agent of scarlet fever and the disease as a specific toxicosis perfectly analogous to diphtheria.

40: 409-444 (March 31) 1927

The Stomach in Parkinsonism. L. Hess and J. Faltitschek.—p. 409. C'td.
Malaria Treatment of General Paralysis. J. Gerstmann.—p. 413.
Chromocholecystography. J. Rosenblatt.—p. 416.
*Testing the Sensitiveness of the Skin to Rays. L. Freund.—p. 419.
Antivirus in Odontology. H. Schlein.—p. 420.
Roentgen-Ray Treatment of Whooping Cough in Pregnancy. Z. von Hrabovsky.—p. 422.
"Postvaccinal Encephalitis." F. Lucksch.—p. 423.
Prescription Writing. A. Mayrhofer.—p. 423.
Clinical Study of Extrasystoles. D. Scherf.—p. 425.
Indications for Venesection. V. Kollert.—p. 427.
Treatment of Atherosclerosis. A. Strasser. Supplement.—pp. 1-19.

Sensitiveness of Skin to Rays.—Freund tests the sensitiveness of patients by preliminary application of definite amounts of the gamma rays of radium.

Zentralblatt für Chirurgie, Leipzig

54: 321-384 (Feb. 5) 1927

Importance of Stereoscopic Roentgen-Ray Pictures. S. Frey.—p. 322.
Tetany Following Operation for Suppurative Cholecystitis and Acute Necrosis of the Pancreas. R. Bertelsmann.—p. 324.
*Combined Paravertebral and Spinal Anesthesia. E. Beck.—p. 326.
Operative Fixation of the Spine in Spondylolisthesis. A. W. Smirnow. —p. 328.
Apparatus for Measuring Kyphosis. T. N. Ssiltschenko.—p. 330.
New Plastic Procedure for Inguinal Hernia. W. Block.—p. 332.
Sarcoma of Pelvic Musculature Simulating Abscess. A. Lurje.—p. 337.

Painless Abdominal Operations with Combined Paravertebral and Spinal Anesthesia.—This method has given very satisfactory results in Beck's hands. For operations on the gallbladder, the lumbar injection is preceded by paravertebral anesthesia of the ninth to the eleventh thoracic nerves on the right side; for operations on the stomach by anesthesia of the seventh and eighth thoracic nerves on both sides. From 7 to 10 cc. of a 1 per cent solution of procaine hydrochloride with epinephrine is used for each segment.

Zentralblatt für Gynäkologie, Leipzig

51: 321-384 (Feb. 5) 1927

Collateral Arterial Systems in the Human Ureter. G. Frommolt.—p. 322.
*Treatment of Vesical Ureterocele. H. Martius.—p. 327.
Clinical Importance of Anomalies of the Ureter. G. Haselhorst.—p. 333.
Method of Closing Ureterogenital Fistulas in the Presence of Pyelitis. B. S. ten Berge.—p. 345.
*Conservative Treatment of Small Vesical Fistulas. B. Ottow.—p. 347.
Clinical Import of Hematuria During Parturition. A. Reist.—p. 351.
Instrument for Applying Powders to the Female Urethra. A. Stern.—p. 356.

Treatment of Vesical Ureterocele.—Vesical ureteroceles (protrusions of the intramural portion of the ureter into the lumen of the bladder) are found in women almost twice as often as in men. The case here described occurred in a woman, aged 54, and was bilateral. The symptoms, of a year's standing, were paroxymal, stabbing pains in the right lower abdomen and difficulty and burning on urination. The diagnosis was made by the aid of the cystoscope. Martius treated the case successfully by electrocoagulation with a diathermy apparatus. He describes the technic and recommends the procedure in preference to suprapubic cystotomy, unless the protrusion is too large. Anesthesia is not required. He warns against ambulatory treatment, because of the possibility of a temporary hindrance to the passage of urine through the mouth of the ureter treated. For the same reason, both sides should not be treated simultaneously, in case of bilateral vesicoceles.

Electrocoagulation for Small Vesical Fistulas.—For very small fistulas, not surrounded by hard scar tissue, Ottow recommends touching the margins of the fistula with a diathermy sound, introduced into the bladder. The procedure is almost painless. An indwelling catheter should then be inserted and left in position for ten days, to put the bladder at rest and allow the edges of the wound to come together. He had complete success with this method with a fistula of one year's standing, caused through late necrosis in the region of a sutured and healed wound in the bladder wall, inflicted in the course of cesarean section.

Mediko-Biologicheskiy Jurnal, Moscow

2: 5-109 (Nov.-Dec.) 1926. Partial Index

Influence of Vegetative System on the Metabolism of Water and of Sodium Chloride. K. Drezel.—p. 5.
Biologic Control of Antithyroidin. G. I. Azimoff.—p. 37.
*Permeability of Cerebral Capillaries for Dyes. Z. I. Morgenstern and M. L. Biriukoff.—p. 72.
*Mechanism of Anaphylactic Shock Evidenced in Isolated Organs. N. N. Sirotinin.—p. 79.
*Blood Calcium in Anaphylactic Shock. P. P. Averyanoff.—p. 90.

Permeability of Cerebral Capillaries for Dyes.—Morgenstern and Biriukoff's experiments consisted in the following: rabbits were trephined and small pieces of celloidin were placed beneath the dura mater. From twelve hours to four days later the animals were injected with trypan blue in the auricular vein. At necropsy, the inflamed part of the brain, adjacent to the celloidin, was found stained. This points to the fact that elective localization of toxins and poisons in certain parts of the nervous system depends not only on the permeability of the plexus but also on that of the cerebral capillaries. Other factors besides inflammation may favor the passage of dyes through the cerebral capillaries.

Mechanism of Anaphylactic Shock Evidenced in Isolated Organs.—Sirotinin isolated the heart and the liver of cats and rabbits immediately after appearance of the induced anaphylactic shock. The property of sugar assimilation in the heart was found not to be altered by the shock. The reaction to antigen was the same in the isolated hearts of sensitized animals as in those of the controls. During the experiments the functioning of the heart was uninterrupted. Hence, the rôle of the heart is not predominant in the pathogenesis of shock. The diastasic and glycogenic properties were preserved in the isolated livers of sensitized animals. The ureagenetic ability was reduced to the same extent as in normal livers in the course of anaphylactic shock. The author sustains Bogomolets' theory that anaphylactic shock is induced by irritation, followed by paralysis of the vegetative nervous system, from inactivation of the complement in the nerve cells.

The Blood Calcium in Anaphylactic Shock.—Averyanoff did not find appreciable changes in the amount of blood calcium in eleven dogs with induced shock. Evidently there is not any connection between anaphylactic phenomena on the part of the sympathetic nervous system and of the muscles, on one side, and ion concentration, on the other side.

Acta Chirurgica Scandinavica, Stockholm

61: 289-383 (Feb. 22) 1927

Abnormal Renal Vessels and Hydronephrosis. J. Hellström.—p. 289. In English.
Simultaneous Occurrence of Tuberculosis and Carcinoma in the Stomach. R. Faltin.—p. 331.
Surgery of Aneurysm and of Racemose Angioma. G. Eichelter and J. Knoflach.—p. 339.
*Section of the Root of the Trigeminus at the Pons. H. Olivecrona.—p. 366. In English.
*The Roentgen-Ray Picture of Acute Intestinal Intussusception. Y. Olsson and G. Pallin.—p. 371.

Section of the Root of the Trigeminus at the Pons.—In neuralgia of the fifth nerve, secondary to malignant tumor of the nasopharynx, the temporal approach for root section is impracticable, since the growth may involve the ganglion itself or the neighboring structures. For these cases Olivecrona recommends an intradural approach from a suboccipital craniectomy and section of the root at the side of the pons. The operation is technically difficult owing to the depth of the wound and the limited space in which the surgeon must work. To obtain sufficient illumination of the operative field, he recommends a small electric bulb mounted on a thin metal rod, held by an assistant. A suction apparatus is also advisable to keep the field dry. He describes a case, in which operation by the temporal route failed, but a second operation, carried out as described, was successful.

The Roentgen Ray in Examination of Intestinal Intussusception.—Olsson and Pallin report four cases in which opaque enemas were used in the diagnosis of intestinal intussusception in children. In three of the cases reduction was obtained by increasing the pressure of the enema. Anesthesia was not required. The roentgenograms are reproduced.

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. 89, No. 2 CHICAGO, ILLINOIS July 9, 1927

ECONOMICS OF PUBLIC HEALTH *

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NEW YORK

The economics of public health, as I understand the subject, relates to the policy the government has pursued or should follow with reference to the conservation of human health. All important nations are committed to the policy of developing and conserving their natural resources. The citizens who compose the nation represent the most important item in the list of national assets. The protection of their lives and health is regarded as essential to the national welfare. Likewise states, counties and municipalities recognize that the safeguarding of the life and health of the people is a government responsibility. The principle has received universal adoption, but the programs for applying it vary widely as to scope, cost and results.

If the government, in the discharge of its responsibility to society, is to deal intelligently with the problem of human health, it must ascertain the present situation with reference to the amount of sickness—particularly that of a preventable character—its cost, both private and public, what has been done to meet the problem, the amount expended, the results obtained and the indications as to future procedures. Man is a complex organism, and for the economist he is the outstanding variable. Hence the measurement of his health, unlike procedures in mathematics, physics or chemistry, cannot be carried out with a high degree of precision. However, methods for approaching the task have been devised that will give a general idea of the true situation.

COST OF SICKNESS

The cost of sickness in the United States has been variously estimated. Expenditures for the services of physicians and nurses and for hospitals and medicines were estimated for 1921 by Mr. Moore of the Public Health Service as $1,400,000,000, or a per capita of $12.33, and by Dr. Charles H. Herty, of the Chemical Manufacturers Association, for 1925 as $1,015,000,000. Dr. Dublin of the Metropolitan Life Insurance Company has presented similar estimates and reports that 2 per cent of his company's policyholders, and probably a larger percentage of the entire population of the nation, are constantly sick and there is an average loss of wages for each person of seven days in the year. Mr. Homer Folks of New York accepts these estimates and concludes that there is an average per capita expenditure for medical care of $10 a year and a loss of wages because of sickness of $12 per capita a year, or a total of $22.

A study of mortality statistics by Dr. Dublin showed that approximately 33 per cent of deaths are due to causes now generally recognized as preventable. Statisticians have computed the economic loss due to sickness and death sustained by the nation unnecessarily. They estimate the cost of raising an infant to the adult stage when he will become a producer. They then compute his value based on the capital investment that would be represented by his future earnings. The amount of the losses shown by their estimates is stupendous and in comparison the amounts expended by the government specifically for preventing unnecessary sickness and deaths seem insignificant. Time will not permit a full discussion of this aspect of my subject. The amounts involved are probably beyond the comprehension of the average citizen, and no one who is reasonably well informed will question that the loss is extremely large and that the measures for preventing this loss have been wofully inadequate.

EXPENDITURE FOR PROTECTION OF HEALTH

It is probably impracticable to ascertain, with any degree of accuracy, the amount of money now expended in the country for the protection of health. A large sum, of course, is spent privately by individual families for food, clothing, housing and sanitation. To an increasing degree these families arrange with physicians and dentists for advice and treatment before much damage occurs. Industrial corporations are making provision to protect their employees against sickness, exposure and fatigue and are striving to improve environmental sanitation. I have not found estimates as to the amount of the expenditures of this character which directly or indirectly influence health. It is known that they are quite large and are increasing.

Many public expenditures, not specifically for public health, exert a most important influence on health. Public schools, for example, teach the elementary principles of personal hygiene and disease prevention. They attempt to train the students in correct habits of living and teach them how to become productive. It is recognized that a person's capacity to earn should be developed, for the larger his income, the higher will be his standard of living. In turn this should mean better health, and better health should make for greater wealth. Ability to purchase health protection, either from the individual or the community standpoint, is a basic factor in any plan for conserving public health.

Notwithstanding these large expenditures which influence health but are not recorded in health budgets, I shall limit the present discussion primarily to the expenditures by the government specifically for public health. According to official records, the federal government expended in 1923 for public health, through a number of departments, approximately $5,000,000 (table 2), or a per capita of 4.5 cents. According to Mr. Harry H. Moore, whose book shows the use made of the taxpayer's dollar for 1923 and 1924, 6 cents went for certain civil functions, and "of this amount 0.4 of one cent was applied to the promotion of health by all federal departments."

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* Read before the Conference on Public Health, Chicago, March 25, 1927.

The forty-eight state health departments expended for 1925 approximately $10,145,826, or 9 cents per capita. However, their expenditures for institutions, particularly those for the care of tuberculosis, are not included in these figures because there is a lack of uniformity in the various states in handling this phase of the work. In certain instances, tuberculosis expenditures are under the state health department; in others, they are under special boards. Figure 2 shows, by states, the population, the expenditures by the state health department (exclusive of those for tuberculosis institutions), the per capita state appropriation for the health department, and the per capita income for the state. It will be noted that Delaware, for 1925, heads the list in the per capita expenditures for health. This state spent 32.9 cents and had an average per capita yearly income of $797. Nebraska is at the foot of the list with a per capita expenditure for its health department of only 2.5 cents for 1925. Its per capita income was $491. California and New York show the highest per capita incomes of $1,255 and $1,250, respectively, but in per capita expenditures through their health departments New York takes twelfth place, expending 11.6 cents per capita, and California thirty-first place with an expenditure of 6 cents. These states, as well as several others, such as Ohio, Massachusetts and Illinois, have a number of very large cities which, in addition to contributing toward the state expenditure for health, finance their own health services.

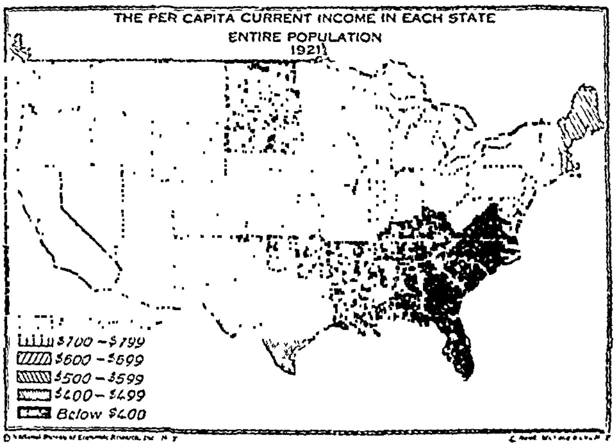

Fig. 1.—Per capita current income in each state, for the entire population in 1921.

Thus, though the state appropriation for health work is contributed by the whole population, its benefits are restricted to a smaller population. Therefore the beneficiaries of the work, although their per capita income is comparatively high, are actually paying much less per capita for health work than the people of many less populous and less wealthy states. In Mississippi and North Carolina there are no large cities, so that the per capita expenditures shown in the table represent, in the main, funds derived from the people served. However, as the negro population is relatively large and the negroes pay a very small percentage of the taxes collected, they benefit out of proportion to the amounts they pay. Even so, the per capita income of both states is relatively low, that for Mississippi being only $252 and that for North Carolina $336, and yet, with a per capita expenditure for the state health department of 16.7 and 15.7 cents, respectively, they take fourth and fifth places in the list of states.

In 1924, 248 cities, having a population of 40,000 or more, or an aggregate population of 39,981,105 inhabitants, spent approximately $34,206,343, or a per capita of 86 per cent. A recent survey[1] of the health department of the hundred largest cities in the United States for the year 1923 contains an analysis of expenditures prepared by Dr. Allen W. Freeman. The average per capita expenditure for health by these cities he gives as 88 cents, which aggregates $28,413,998, but he points out that the budgets are not uniform as to items, as some of them include mosquito control, rodent control, support of hospitals, garbage disposal, plumbing inspection and poor relief. He enumerates twelve items considered essential that are more or less common to all the cities, and for each he gives the actual average cost in cents in one column, and in another the most usual amount expended (table 1). For fifty-three of the 100 cities the per capita expenditures ranged from 50 to 75 cents, and for the entire list the lowest per capita expenditure was 21 cents and the highest, that for Jersey City, was $1.122.

Table 1.—*Per Capita Cost for Health Services of One Hundred Largest Cities of United States for 1923* *

Twelve Essential Items	Average Actual Cost, Cents	Most Usual Cost, Cents
Administration	6.0	4.5
Vital statistics	1.5	1.5
Communicable diseases	8.2	4.5
Tuberculosis	4.0	3.5
Venereal diseases	1.5	1.5
Infant hygiene	5.3	2.5
School hygiene	13.1	13.5
Nursing	1.4	...
Laboratory	4.0	3.5
Milk inspection	3.2	2.0
Food inspection	4.3	1.5
Sanitary inspection	6.6	7.5
	59.0	46.0

* Freeman in Bull. 164, U. S. P. H. S.

Table 2.—*Growth in Public Health Expenditures*

Federal Government*				Cities of U. S. Having 100,000 Population and Over‡	
U. S. P. H. S.†		States			Per Capita Health Expenditure in Cents
1930	$1,371,758	1914	$1,500,000	1919	63.64
1905	1,631,719	1918	6,500,000	1920	74.18
1910	2,020,777	1922	11,500,000	1921	81.85
1915	2,799,137	1925	12,000,000	1922	80.81
1920	5,985,765			1923	82.10
1924 (budget)	8,737,312				

* Moore, H. H.: Public Health in the United States.
† These items include expenditures only for the U. S. Public Health Service, but they include expenditures for hospitals, immigration inspection, and the like, which are not regarded strictly as a part of a public health program. It has been estimated that about $5,000,000 yearly is now spent by departments of the federal government for activities that are strictly in the public health field.
‡ Bull. 164, U. S. P. H. S.

At the close of 1926 there were 341 full-time county health organizations in thirty-four states. In six of the states, Alabama, California, New Mexico, North Carolina, Ohio and Tennessee, that are widely distributed, there are 439 counties (table 4). "The National Market" of the Crowell Publishing Company lists 40 per cent of these counties as "best,"

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1. Bull. 164.

25 per cent as "good," 21 per cent as "fair," and 14 per cent as "poor." Fifty-three per cent of the "best" counties and 29 per cent of the "good" counties have full-time health units which spend, on an average, 30 cents per capita. Only 15 per cent of the "fair" counties and 10 per cent of the "poor" ones are organized, but the average per capita expenditures for them were 33 cents and 59 cents, respectively. Expressed in other words, there are 145 counties in these six states which have full-time health organizations, of which 125 are in the "best" and "good" counties, and only twenty in the "fair" and "poor" counties. The counties designated as "best" have a gross income of $12,000,000 or over, which represents approximately a per capita income of $700 or over. The "good" counties have from $5,000,000 to $12,000,000 income, or, roughly, $400 per capita. The "fair" counties have from $2,000,000 to $5,000,000 income, or approximately $250 per capita income. The "poor" counties have a gross income of $2,000,000 or less, which usually represents a per capita income of $200 a year or less. Unfortunately, the large map of the Crowell Publishing Company, showing the counties and the economic status of each, will not be adaptable for publication with this paper. However, the National Bureau of Economic Research issued a map for 1921 which shows the per capita current income for each state. It is smaller, but has suggestive value as to the relative economic situation in the various states (fig. 1).

		FOR STATE HEALTH DEPTS.		
	1925	1 9 2 5		1926
State	Population	Total appropriation from State Legis. (1)	Per cap. State Approp.	Per cap. Income (2)
Del.	233,653	77,000.	.329	$ 797.
Florida	1,079,650	219,550.	.203	497.
Md.	1,529,131	305,938.	.200	817.
Miss.	1,790,618	299,800.	.167	262.
N.C.	2,740,663	429,822.	.157	336.
Mass.	4,102,616	636,467.	.154	1067.
Penna.	9,263,317	1,371,703.	.148	834.
Maine	781,214	115,000.	.147	704.
La.	1,871,669	270,663.	.144	436.
Conn.	1,517,561	213,660.	.140	917.
R.I.	639,400	88,000.	.138	1066.
N.Y.	11,040,157	1,266,630.	.115	1260.
Vermont	352,428	40,000.	.113	651.
Michigan	4,110,422	418,971.	.101	716.
Ohio	6,270,434	573,713.	.091	708.
New Jersey	3,474,670	297,189.	.086	946.
S.C.	1,770,424	150,039.	.084	211.
Alabama	2,466,364	205,000.	.083	300.
Okla.	2,219,423	183,671.	.082	420.
N.M.	377,380	31,230.	.082	452.
Illinois	6,521,338	559,443.	.082	889.
N.H.	449,533	36,638.	.081	769.
S.D.	663,677	54,060.	.081	279.
Wisconsin	2,785,657	226,862.	.081	626.
Arizona	401,022	27,405.	.068	665.
Va.	2,438,697	164,265.	.067	414.
Idaho	486,696	32,323.	.066	549.
Montana	637,809	42,700.	.066	526.
Minnesota	2,547,516	157,600.	.061	686.
Utah	488,566	29,750.	.060	577.
Cal.	3,987,271	241,676.	.060	1255.
W. Va.	1,588,641	93,929.	.059	551.
Indiana	3,048,690	176,750.	.057	616.
Nevada	77,407	4,250.	.054	881.
Tenn.	2,416,735	129,212.	.053	381.
Oregon	840,369	43,847.	.051	766.
Colo.	1,012,039	51,190.	.050	772.
Wyoming	219,352	10,600.	.048	876.
Ky.	2,481,890	121,299.	.048	401.
Ark.	1,843,744	85,000.	.046	275.
Kansas	1,809,577	74,613.	.041	611.
Missouri	3,461,085	129,797.	.037	660.
Georgia	3,043,492	96,431.	.031	279.
Texas	5,068,088	159,468.	.031	618.
Iowa	2,496,331	75,310.	.030	639.
Wash.	1,467,161	45,000.	.030	862.
N.D.	682,832	20,076.	.029	368.
Nebraska	1,350,022	34,000.	.026	491.
TOTAL	112,304,300	10,145,826.	average .090	

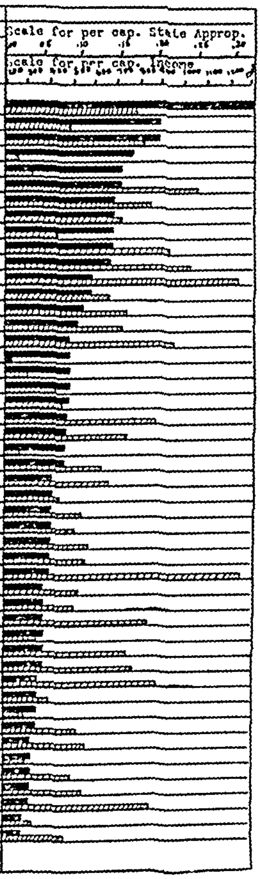

Fig. 2.—State health appropriations in relation to income; per capita basis: solid black, per capita state appropriation (in cents) for health work; shaded area, per capita income (in dollars). 1, amounts exclude appropriations for tuberculosis institutions and the like, but include special revenues and fees allocated to state health department. 2, data from "The National Market," courtesy of the Crowell Publishing Company, New York.

The nation's investment in public health service in relation to its expenditures for other purposes would seem to be exceedingly small. The average amount spent for medicine per person annually has been estimated as $5, of which $3 was for proprietary medicine. The estimated yearly expenditure for cosmetics was $1.25, for tobacco $21, for chewing gum $0.50, and so on. Of course, there is a vast difference between the marketing of such articles for a given amount of money and securing a like sum for public expenditure. However, Mr. H. H. Moore,[2] in connection with an analysis of the expenditures of the funds of 187 cities in 1921, shows that there was spent, per capita, annually, for public education, $10.62; for police and other protection, $3.66; for highways, $3; for fire departments, $2.57; for charities, hospitals and correction, $2.08; for recreational facilities, $0.99, and for the conservation of health, $0.71. The growth in twenty-five years in the expenditures for education has been noteworthy. The claims on the public treasury for health conservation are certainly as basic as those for education. There is no desire, however, to discount the importance of schools. I merely wish to indicate that gradually health service likewise may come to be publicly appreciated to a much greater degree than is the case at present.

A study of the variation in the per capita amounts spent by various states, counties and cities for public health service is interesting. No inflexible rule seems to hold, but, in general, it is found that there is a high degree of correlation between the amount expended and the extent of the recognized health hazard of the community. Communities subjected to immediate danger from bubonic plague, yellow fever, typhoid or malaria will support public health work in the same spirit with which they will support war. When they find their very existence is threatened, they will pay any amount within their grasp to secure protection. Two Southern towns in 1921, each having about 2,000 inhabitants, were suffering terribly from malaria. Experts were obtained to survey the situations. They found that major drainage projects were necessary, and that the cost would be quite high, approximately $16 per capita in one case and $20 in the other. The people had to have protection or abandon their towns. Though the counties in which the towns are located have an annual per capita income of only $168 and $326, respectively, the towns found the means to buy protection from malaria. The results in both cases were gratifying, and subsequently the maintenance cost has been moderate.

Again, certain communities, states or cities have an average or low death rate; that is, they have no more sickness than is regarded as normal. They are proud of their schools, roads and public buildings, but they are already burdened with taxes. In the absence of recognized danger, it is very difficult to induce them to provide for more than a meager health service.

Between these two extremes of attitude most communities are situated. Where economic conditions are good, the standard of intelligence and the per capita income high, the amount of public funds relatively large, and the customary basis is followed in allocating funds to the usual items, a comparatively high per capita expenditure for health is made. In the poor communities the converse holds true. Quite a number of communities are making relatively large appropriations for health purposes which have neither alarming health hazards nor exceptionally favorable economic conditions (fig. 2). The causes for such generous support will vary, but generally it will be found that the community is well educated in public health matters and this in turn generally means that it has enjoyed capable public health leadership.

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[2] Moore, H. H.: Public Health in the United States.

INCREASING SPAN OF LIFE

Achievements in the prevention of sickness and death have been remarkable. In 1880 the general death rate for the United States Registration area per thousand of population was 20 and in 1922 it was 11.8. Stated in other words, the average span of life in 1900 was 49.2 years and in 1920 it was 55.1 years, an increase of approximately six years. In New York City for the same period, the span increased from 40 years to 55 years. According to Dr. Dublin, the life expectancy of a new-born baby was 49.24 for the United States registration area in 1901 and 57.32 in 1926, a gain of 16 per cent, and the expectancy for New York City for a fifty-year period has increased approximately 60 per cent. He concludes that it is within the range of possibility to lengthen the average span of life from the present 57 or 58 years to 65 years. The tuberculosis death rate of the country has been cut from 180.5 in 1900 to 80.2 in 1924, a reduction well in excess of 50 per cent in twenty-five years. Examples of this character (table 3) could be multiplied.

TABLE 3.—*Reduction in Death Rates*

Year	Death Rates per 100,000 Population in U. S. Registration Area: Tuberculosis of Respiratory System	Typhoid	Diphtheria	Infant Mortality, No. of Deaths Under 1 Year per 1,000 Live Births
1900	173.3	31.3	40.4	....
1911	138.2	21.0	18.9	....
1912	130.0	16.5	18.2	....
1913	127.9	17.9	18.9	....
1914	128.2	15.5	17.9	....
1915	128.2	12.4	15.7	99.9
1916	124.3	13.3	14.5	101.0
1917	129.4	13.5	16.6	93.8
1918	133.2	12.6	13.9	101.0
1919	111.3	9.2	14.7	86.6
1920	100.8	7.8	15.3	85.8
1921	87.6	9.0	17.7	75.6
1922	86.3	7.5	14.6	76.2
1923	83.5	6.8	12.1	77.1
1924	80.2	6.7	9.4	70.8

Although it is not possible to evaluate accurately the influences that have produced such results, it is reasonably certain that among contributing factors have been a broader and more accurate knowledge of diseases and of methods for their prevention and cure, a better educated public, better trained physicians, dentists and nurses, more adequately equipped hospitals, larger average earning capacity, higher and more hygienic standards of living, better diet and housing conditions and, emphatically, the work of health agencies, official and voluntary. Although the extent of the contribution to the improved conditions made specifically by the health agencies cannot precisely be determined, it is known that some of the most conspicuous and clear-cut achievements in the public health field were due mainly to the leadership and activities of public health authorities. This certainly would hold true in the practical disappearance of yellow fever, cholera and plague and to a slightly less degree, perhaps, to the extensive control of smallpox, diphtheria, typhoid, malaria and hookworm disease. The definiteness and rapidity with which these diseases have yielded is a tribute to public health leadership and an indication that this leadership should be supported in the numerous public health measures that are recognized as rational, even though the basis for measuring tangible results is not clear-cut.

AN ADEQUATE HEALTH PROGRAM

Methods for the evaluation of expenditures for activities in the public health field, particularly those not promptly reflected by mortality statistics, have been discussed extensively in recent years. A standard of measurement has not yet been devised comparable, from the standpoint of accuracy, with those employed in business enterprises for determining which procedures are fruitful and which wasteful. In a farming project it is possible to ascertain by tests the kind of seed, the amount of cultivation, the kind and amount of fertilizer that, for a given tract of land, will produce the largest yield. In a department store, the management can ascertain accurately the profit or loss from the shoe, clothing or hat division. In a health department it would be desirable similarly to evaluate the expenditures of each division. Unfortunately, the measurement of health is no easy task. Well known authorities are convinced that certain specific activities or services will protect and conserve health, and they have strong evidence in support of their views. The public at large definitely desires and values these services. It is practicable to obtain a financial equivalent for such services. That is to say, activities can be translated into dollars or dollars into service. This approach to the problem of evaluation in the health field is now being employed experimentally in city and county health work, but, since the dollar or the item of service cannot, with precision, be translated in all instances into terms of health conservation, certain questions arise, particularly with reference to the character and scope of the program, which lead to differences of opinion.

When, therefore, a discussion occurs as to what would constitute an adequate public health program, widely ranging views are presented. Practically every one will agree with the theory that a sound health program should apply fully our present knowledge as to the prevention of sickness and death as far as practicable under present economic conditions. Of course, there is a group of diseases about which too little is known to permit the organization of any rational procedures except for research. There is a second group of diseases concerning which basic knowledge is limited. They should be studied with a view to obtaining more knowledge in order that improved measures of control may be devised. There is a third group of diseases for the control of which all essential knowledge is available. Little difference of opinion really exists, however, as to the correct procedure in applying present knowledge.

The main question about which controversy centers is: What part of the program of hygiene and preventive medicine should the physicians, dentists and nurses conduct with their compensation derived directly from the individuals or families immediately concerned, and what part should be carried out by suitably trained personnel employed by the community at public expense? In other words, the bone of contention is the distribution of the work in the field of preventive medicine. The broad-minded, sincere advocate of the cause of health is concerned primarily in getting the work done. He would like to see as much as possible of the task provided for privately between the individual and the practitioner, and the remainder assumed by the community. Of course, it has been argued that the physicians have not, cannot, or will not meet the situation, and unless the community broadens the scope of its health program, great and needless waste of human life will result. Effort should be made to determine the true situation and if the present order with reference to the practice of preventive medicine on a private basis is unsatisfactory, it should be ascertained what assurance can be given that changes will be made so that the community responsibility for controlling disease and conserving health may not be expanded beyond the degree necessary.

DISTRIBUTION OF COST

The economic status of the people in any community has a direct bearing on the whole problem because there is a limit beyond which it is impracticable for the individual to pay or for his community to pay. Where there is a high average of sickness and physical disability, there is likely to be a low average of income. This in turn makes for low standards of living, low productivity, inability of the individual to pay for medical service, or to pay taxes with which to provide service at public expense. Thus in states, cities and counties having a high per capita income (fig. 1) the individual does not need so urgently health facilities financed by the community, and yet it is in such communities that it is practicable, without excessive taxation, to supply such facilities. The same situation applies also to educational, social and recreational facilities. In poor communities the converse situation holds true to a depressing and perplexing degree.

We are confronted, then, with the question not only as to the per capita amount of public funds that should be spent for the conservation of health but also how the cost should be distributed between municipality, county, state and nation. It is perfectly obvious that if one group of communities has a per capita annual income under $200 a year and another group $1,000 or more, there will be a tendency for individual and physician to move from the poor communities to the prosperous ones. If this should proceed far enough, it would result, on the one hand, in the virtual abandonment of extensive rural areas where there now are producers of raw materials and consumers of manufactured products. On the other hand, there would occur ultimately excessive congestion of population in the communities that are now prosperous. Shall rural America be sacrificed to industrial America? From a far-sighted standpoint, is it in the interest of the welfare of the nation, or even of the industrial communities, to permit this to go on until the country may be weakened by the consequences? Should state and nation take steps to correct the trend and equalize facilities and opportunities, particularly with respect to health, before political strength is concentrated in the populous centers of industry? The nation has granted some aid on a population basis in matters of health and roads. There is controversy as to whether or not the policy is sound. Assuming that it may be, it does not follow that the problems we are considering in economics will be equitably solved by appropriations distributed on a population basis. The poor communities which are in greatest need of aid are usually large in area and sparsely settled. A few of the states in the field of education have adopted the policy that the child belongs to the state and it is the state's responsibility to see that every child, regardless of location, enjoys a chance to obtain an education, at least up to a minimum standard. Let us assume that a minimum standard of health service should be adopted with the idea that no community, however remote or sparsely settled, should have less than the standard. It would be found that if the individuals of poor communities should attempt to support their health work by taxation in accordance with their ability, based either on a fixed percentage of their income or on a fixed per capita basis (which would, of course, involve greater personal sacrifice), the aggregate amount raised would nevertheless be relatively small. It would still be necessary to have a large subvention from the central government—derived, of course, from wealthier communities. Whatever the items of the health program may be, *it will be found that the cost per item, for example*, a visit to a home by a public health nurse in rural and sparsely settled areas, will amount to from

Table 4.—*One Hundred and Forty-Five Full-Time County Health Organizations of Six States Representing Six Sections of the Country* *

		Best Counties †					Good Counties ‡				Fair Counties §				Poor Counties #			
			Full Time Counties					Full Time				Full Time				Full Time		
State	No. of Counties	Total No.	No.	Total Budget	Average per Capita	Total No.	No.	Total Budget	Average per Capita	Total No.	No.	Total Budget	Average per Capita	Total No.	No.	Total Budget	Average per Capita
[illegible]	67	11	11	$535,537	$0.612	18	12	$122,810	$0.289	32	7	$56,640	$0.323	6	..	......	.....
[illegible]	58	35	9	949,313	0.704	10	..	....	.....	7	..	....	.....	6	..	......	.....
[illegible]	31	1	1	12,000	0.408	4	1	7,200	0.479	2	1	8,975	0.542	24	5	$37,915	$0 602
[illegible]	100	30	21	316,471	0.321	33	11	68,323	0.206	23	4	24,464	0.286	11	1	8,350	0.561
Ohio	88	85	45	566,164	0.131	3	..	....	.....	..	..	....	.....	..	..	......	.....
Tennessee	95	14	6	69,075	0.116	29	8	102,550	0.459	28	2	13.760	0.382	14	..	......	.....
Total	439	176	93	2,448,560	0.301	110	32	300,880	0.302	92	14	103,839	0.332	61	6	46,295	0.594
Average county budget		...	..	26,328				9,402				7,417				7,716	
		40%	53%			25%	29%			21%	15%			14%	10%		

* All data in this table relating to classification of counties on the basis of per capita income were obtained from "The National Market" through the courtesy of the Crowell Publishing Company, New York.

Counties	Full-Time Counties Number	Full-Time Counties Per Cent	Amount of Income in Millions of Dollars	Per Capita Income, Approximate Average
† Best	93	64.1	12 and over	$700
‡ Good	32	22.0	5 to 12	400
§ Fair	14	9.7	3 to 5	250
# Poor	6	4.2	3 or less	200
	145	100.0		

two to five times as much as a similar visit in an urban community.

In a prosperous community having abundant resources, it would seem then that the sane course would be for taxpayer, physician and health worker to come together and work out a basis that will be fair and equitable and yet insure the application of present knowledge to health promotion and disease prevention to the utmost degree possible. If physician and health worker fail to reach terms, the decision as to whom each activity shall be delegated will be made, wisely or otherwise, by the taxpayers.

For the remainder of the country the interested parties must struggle with a difficult problem in economics. The question of cost both for community and for individual presents a serious problem. With the health authorities of such sections the question is not whether $3 or $5 per person each year is too much or too little for the community to spend for health service, but rather how they can manage to obtain enough money from local, central and outside sources to pay for a service representing as little as 50 cents per person annually.

Few, if any, authorities will contend that the present health service, even in the "best" counties, has approached adequacy, but there is satisfaction in knowing that they have something in the way of service. The real concern relates to what can be done for the 1,000 to 1,500 counties classed as "fair" or "poor." Must the people move to more prosperous sections and abandon these counties, or can they be aided until they may be able to assume the cost of essential health service?

PROGRESS IN THE WORK OF OFFICIAL HEALTH AGENCIES

Notwithstanding the fact that many difficult problems in the field of public health are awaiting solution, it is gratifying to know that during recent years remarkable progress in the work of the official health agencies has occurred. The appropriation of the federal health service was increased from $2,799,000 in 1915 to approximately $8,000,000 in 1924. The combined appropriations of the state health departments were increased from $4,500,000 in 1914 to more than $12,000,000 in 1925. Those for the 100 largest cities increased in the four-year period from 1919, when the per capita appropriation for health was 63 cents, to 83 cents in 1923 (table 2). Since 1915, when there were practically no full-time county health organizations, there were developed, before the close of 1926, more than 330 full-time county health organizations. In all the health organizations, central and local, a better balanced program has been evolved. Provision has been made for all the essential branches of service. Better qualified personnel has been employed. The terms of employment as to salary and tenure of office have shown consistent improvement. Public confidence in the health organizations and their possibilities for rendering indispensable service has been established to an increasing degree. The best type of young men and young women is being attracted to this field of service. These remarkable developments in so short a time should be a source of gratification to those who have supplied the leadership, and should afford encouragement to hope for even greater achievements in the future.

61 Broadway.

RELATION OF VOLUNTARY HEALTH AGENCY TO PHYSICIANS AND HEALTH DEPARTMENTS *

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The term "public health" has been somewhat loosely applied to everything which has to do with keeping people well, preventing disease and caring for the sick. Although care of the sick is not considered as a health activity, activities organized for the prevention of disease grow out of the movement for the care of the sick.

The care of the sick was carried on by religious orders during the middle ages and later by private organizations, particularly in England. The colonies and the United States followed the English tradition in organizing private hospitals and later dispensaries for the care of the sick. There were relatively few efforts made by governmental authority in this country for the care of the sick until the middle of the last century. Health departments were organized primarily for the suppression of epidemics; and as the knowledge of disease became more definite, their efforts were also directed to the prevention of other diseases which were known to be noncommunicable.

Hospitals and dispensaries, having begun as institutions for administering medical relief, that is, in caring for the sick, started to expand their work at the end of the last century to the prevention of disease, primarily in the field of tuberculosis. The antituberculosis movement took on more active work at the beginning of this century and has continuously expanded, so that an association exists in every state for the prevention of tuberculosis.

Although there were several voluntary agencies interested in health work, these antituberculosis societies were the first that formulated a definite policy which has been adopted with various modifications by voluntary health agencies interested in the prevention of other diseases. The voluntary health agencies have not formulated a definite policy that is the same throughout the country, yet there are certain similarities which may be expressed as follows: In general, they conceive of their function as being one of investigation, the inauguration of a new activity, the demonstration of its usefulness, transferring the activity to the official agency or discontinuing it. In certain places where the governmental authorities have not made any provision for the care of the sick, the voluntary agencies have carried on a continued activity for the care and relief of the sick poor.

These principles immediately bring up the age-long conflict in regard to the government—whether there should be a great deal of government and the state should do everything or whether the individual should be left to help himself or whether a voluntary group should undertake to secure funds which are contributed in addition to taxation for the carrying on of a special activity.

As tuberculosis work is perhaps the best known, this will be taken as an example. A voluntary health agency organized for the purpose of assisting in the prevention of tuberculosis desires aid in the situation, and its first problem is to determine how many cases of tuberculosis

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* Read before the Conference on Public Health, Chicago, March 24, 1927.

there are in the community. This is the period of investigation. This study is known as a tuberculosis survey and should be made with the knowledge and assent of the health authorities. The survey is usually made by a nurse or social worker consulting hospital and dispensary records and visiting the poor farm and the physicians practicing in the community; the individual data giving names and addresses of patients with tuberculosis is not divulged. It is usually found as a result of such surveys that there is a far larger amount of tuberculosis in the community than is suspected by the physicians or health authorities.

It is then suggested, perhaps by the voluntary health agency, that the official health authority should create a local dispensary for tuberculosis or a special class for tuberculosis in the existing outpatient department of a hospital, or that a special hospital should be created in the county for tuberculosis or a special pavilion for tuberculosis should be established in connection with the municipal hospital. Whichever of these activities is agreed on is recommended to the local board of health, community council or county board with the usual reply that funds are not available and it is not necessary, that the people won't stand for it, etc. The voluntary agency then determines perhaps to establish a dispensary in the community, and its organization is worked out with the knowledge and advice of the health officer and is maintained for several years.

During this period, it is found that a number of cases need institutional care and no place is available for them. An effort is then made to transfer the maintenance of the dispensary to the local health department and very commonly with success; and as it has been shown that hospital beds are needed, another effort is made to bring about the creation of a special tuberculosis sanatorium or pavilion at the general hospital. This work may be called the period of inaugurating an activity and a demonstration of need.

During this period, the relationships between the health department, the voluntary agency and the medical profession have pushed themselves into the foreground because the health department has insisted on certain regulations for the administration of the dispensary, a private agency, and the local medical society has demanded certain privileges in regard to work in the dispensary or exacted certain conditions in regard to the payment of the dispensary physician and his method of appointment. Let us assume for the moment that the tuberculosis dispensary has been taken over by the health department and the local tuberculosis hospital established, and the voluntary agency has made a study of the relation of tuberculosis to children and has finally concluded that it may with profit to the community direct its efforts to keeping well babies well, this being determined on the theory that if children do not become ill they are less liable to develop tuberculosis. Consequently, the voluntary association organizes a child welfare station for children under school age.

Here again, a number of new questions are brought up in regard to the management of the child health station. There are certain differences between the problems arising in regard to the maintenance of the tuberculosis dispensary and the child welfare station. Tuberculosis is a communicable disease, and any patient believing that he has the disease should have the right to go to a dispensary for an examination and diagnosis, irrespective of his financial status. There is no valid objection to this procedure, although it has been contested by county medical societies. The child health station, however, is primarily an institution for education and not for treatment. It is supposed to examine children, weigh them, and advise the mother how to keep them well.

What parents should be permitted to bring their children to such a center? It is my own belief that parents should be permitted to bring their children for examination and diagnosis, irrespective of financial status, in the same manner as in the tuberculosis dispensary; but this point of view is highly contested by many members of the medical societies on the ground that this will pauperize the family and that such parents should go direct to their physician. The appointment of the physician also creates a difficulty in both instances. The institution or organization that has created the tuberculosis dispensary or the child health station has the responsibility of maintaining the medical efficiency of its work; and as it employs the physician in charge and presumably pays him for his services, it is incumbent on the organization to have the final authority in nominating the physician. On the other hand, many jealousies arise on the part of certain members of the local medical society who criticize the physician in charge on the ground that he is not a specialist, that he is not competent, that he is using the dispensary or child welfare station for advertising, that he is building up his practice by asking patients to come to his office instead of to the dispensary, and so on. The local society may endeavor to secure either the direct appointment of the physician in charge, the rotation in office of the physicians in charge, the appointment of a full-time physician who shall not engage in practice, and the rigid examination of all patients as to their capacity to pay, or that no patients shall be admitted to the dispensary or station except on the recommendation of their physician.

There are two essential difficulties which must be met in the future:

1. The health department and the voluntary agency desire to see diagnostic facilities and adequate medical care provided for every individual in the community. Theoretically, the private practitioner has a similar desire, but feels that every one in the community should have his own private physician. The health department and the voluntary agency advertise their clinics and health stations and do everything in their power to increase their trade. The private physician, on the other hand, may do nothing but wait until the patient calls.

2. The health department and the voluntary agency desire to show in their annual reports the largest number of new applicants and total visits possible, irrespective of financial status of their clients. On the other hand, the private practitioner feels very strongly that neither the governmental authority nor the voluntary agency should give diagnostic service or medical care to those who can afford to pay a private physician, and with certain modifications this is evidently a just point of view. However, there are many people who could afford to pay a modest fee but who cannot be persuaded to go to see a private physician when they or their children seem to be perfectly well, but who might be persuaded to go to a clinic for examination and diagnosis if they knew that no fee would be exacted.

There are also differences between the point of view of the voluntary agency and that of the health department. The health officials are embarrassed at times by the activities of the voluntary agency, and there are two chief reasons:

1. The voluntary agency frequently employs a publicity agent and is able to secure more notices in the press than does the health department, and it not uncommonly gives the impression that it is doing more work than the health department. The voluntary agency has been known at times to be confused in the minds of the public with the health department. There are also times when the policy of the health department is not agreed to by the voluntary agency, or the activity of the voluntary agency may not be approved of by the health department. How can these difficulties be adjusted? They must be settled for the better promotion of public health and for the avoidance of disagreement and for the improvement of the health and medical care of the public and the practice of medicine.

In the autumn of 1925, a physician in New York invited representatives of the voluntary health agency, the state health department, and the state medical society for dinner and an informal conference. At this conference a number of these problems were discussed in considerable detail. This meeting was followed by a series of conferences which brought about a definite realization of the difficulties and finally resulted in the appointment of a committee on public health relations of the state medical society, which has been holding meetings regularly during the present winter with representatives of the voluntary health agency. Although no definite agreement has as yet been reached, both groups are in definite agreement that the health department and voluntary agency must both carry on their activities and that the advice and counsel of the county or local medical society must be sought before a new activity is inaugurated, in particular in regard to matters relating to the appointment and remuneration of physicians. This seems to be the most profitable method of securing progress—conference and agreement, and if not complete agreement, compromise.

2. In the relations between the voluntary health agency and the health department there is a greater difficulty, for the voluntary agency must primarily work in harmony with the health department in order to secure the best results; but occasions do arise when a large number of prominent physicians and health workers and others are in agreement that a definite step in advance should be taken by the health department or a marked change in method of administration of a particular health department activity. In instances of this kind there are health officials who believe that no matter what the health officer desires to do he should be supported.

On the other hand, the voluntary health agency believes that it has the right as a group of citizens definitely to criticize and oppose a policy, plan or method of a governmental official. The latter question can never be solved completely, but many disagreements could be avoided by more frequent conference between the interested parties, by the health department seeking the cooperation and support of the voluntary health agency, and by the latter taking counsel with the health officer and advising him of its plans.

REPORT ON THREE HUNDRED THOUSAND KAHN TESTS *

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The first report on the Kahn precipitation test appeared early in 1922.[1] By July of that year, more than 15,000 comparative Wassermann and Kahn tests had been completed in the laboratories of the Michigan Department of Health. The observations indicated that to report both tests to Michigan physicians would give them more dependable results than the Wassermann test alone. Accordingly, July 1, 1922, the Michigan Department of Health began to report the Kahn test in addition to the Wassermann on all blood specimens received in the laboratories for the serum diagnosis of syphilis.[2]

By the latter part of 1923, the Kahn test had become improved and standardized.[3] The necessity for incubation had been eliminated, making it possible to read the results of the test within a few minutes after mixing serum with antigen. The preparation and standardization of antigen had been rendered quantitative, assuring a high degree of constancy of results with the test in the hands of different workers. And what is of the greatest importance, the test had been found highly specific for syphilis and in some respects more reliable than the Wassermann test. In addition to the routine test with serum, the test had been applied to the examination of spinal fluids, a procedure had been developed for the quantitative determination of the syphilitic reacting substances in serum, and a presumptive procedure evolved as a check on the routine test and for the detection of minute amounts of reacting substances.[4]

By October, 1925, there was a comparative record of Kahn and Wassermann tests in more than 174,000 serums in the Michigan Department of Health laboratories. Careful study and evaluation of results in this large number of examinations led the commissioner of health and the laboratory director to abandon the Wassermann test and to make the Kahn test the official procedure for the laboratory diagnosis of syphilis.[5] This, we believe, is the first time a public health laboratory had used alone any serum test for syphilis other than the Wassermann. This paper presents a summary of the data on the two tests up to the time of the abandonment of the Wassermann test, and discusses the experience of more than a year and a half with the Kahn test alone.

COMPARATIVE KAHN AND WASSERMANN TESTS

Results with 174,580 Serums.—From November, 1921, to Oct. 15, 1925, a total of 174,580 comparative Kahn and Wassermann tests were performed. The earlier procedure of the Kahn test was used in 43,000 of these tests, and the present standard routine test in the remaining 131,000. The results are summarized in table 1.

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* From the Bureau of Laboratories, Michigan Department of Health.

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2. Young, C. C.: Public Health Value of the Kahn Test for Syphilis, J. A. M. A. 79: 1674 (Nov. 11) 1922.
3. Kahn, R. L.: The Kahn Precipitation Test for Syphilis Demonstration, Am J. Pub. Health 14: 498 (June) 1924.
4. Kahn, R. L.: Serum Diagnosis of Syphilis by Precipitation: Governing Principles, Procedure, and Clinical Application of the Kahn Precipitation Test, Baltimore, Williams & Wilkins Company, 1925.
5. Olin, R. M.: Wassermann Test to Be Replaced by Kahn Precipitation Test for Routine Specimens in the Laboratory of the Michigan Department of Health, J. Michigan M. S. 14: 541, 1925.

Considering only the results with the present Kahn procedure, it is found that in 127,304 examinations the two methods checked completely; in 3,438 examinations there was relative agreement and in 808 examinations there was no agreement. Of this last number, sixty-seven (8.3 per cent) specimens were positive in the Wassermann and negative in the Kahn test, while 741 (91.7 per cent) were positive in the Kahn and negative in the Wassermann. The histories on the blanks accompanying the specimens indicate that the larger percentage of these 808 specimens were from syphilitic patients under treatment.

The tendency for stronger Kahn than Wassermann reactions is also shown in the 3,438 examinations giving relative agreement. Of this number, 1,045 specimens were positive in the Kahn and doubtful in the Wassermann against eighty-two specimens positive in the Wassermann and doubtful in the Kahn. Further, 1,960 specimens were doubtful in the Kahn and negative in the Wassermann against 351 negative in the Kahn and doubtful in the Wassermann. A large number of these 3,438 specimens also were from treated cases.

Table 1.—*Kahn and Wassermann Tests in 174,580 Serums*

	Kahn		Wassermann		
	Reaction*	Number of Examinations	Positive	Doubtful	Negative
Results based on earlier procedure	Positive	8,120	7,549	395	176
	Doubtful	2,606	143	1,629	834
	Negative	32,304	173	816	31,315
Results based on present procedure	Positive	24,018	22,262	1,015	741
	Doubtful	4,123	82	2,081	1,960
	Negative	103,379	67	351	102,961

Per Cent Agreement Between Kahn and Wassermann

	Total Examinations	Absolute† Agreement, per Cent	Relative‡ Agreement, per Cent	No Agreement, per Cent§
Earlier procedure ...	43,030	94.17	5.08	0.74
Present procedure ..	131,520	96.77	2.61	0.61

* Positive reaction = ++++, +++ and ++; doubtful = + and ±

† Absolute check = positive, negative or doubtful by both methods

‡ Relative check = positive or negative by one method and doubtful with the other.

§ No check = positive by one method and negative by the other

Results in 8,661 Treated Cases.—In order to get the quantitative picture of the results in serums from treated cases, it was necessary to study the data in a large number of specimens from patients with syphilis known to be under treatment. A tabulation was made over a definite period of time of the results obtained with both tests on all specimens from syphilitic patients definitely designated on the history blanks as under treatment. A record of 8,661 examinations was obtained from July 1, 1923, to Oct. 15, 1925, and the results are summarized in table 2. Of the 2,934 specimens showing disagreement in results, 2,340 gave stronger Kahn reactions than Wassermann, while 594 gave stronger Wassermann reactions

Results with 1,184 Spinal Fluids.—Recently, Keim and Kahn[6] reported a comparative study of Wassermann and Kahn tests in 1,000 spinal fluids The study included 222 cases of general paralysis, 124 of tabes dorsalis; 387 of the diffuse type of neurosyphilis; 250 cases of syphilis with apparently no neurologic involvement, and seventeen cases that showed central nervous system involvement of a nonsyphilitic nature. The authors concluded that "the Kahn precipitation test compares favorably in specificity and sensitiveness with the Wassermann test."

In addition to these 1,000 cases, in which the Kahn tests were performed in this laboratory, 1,184 spinal fluid examinations are summarized in table 3. Of this number, 471 were positive and 556 were negative with both the Kahn and Wassermann tests Thirty-three fluids were stronger in the Kahn, forty-four stronger in the Wassermann, and eighty were anticomplementary with this method and either positive or negative in the Kahn.

Table 2—*Kahn and Wassermann Tests in 8,661 Treated Cases*

Number of Specimens	Kahn Results	Wassermann Results	Number of Specimens	Kahn Results	Wassermann Results
Kahn and Wassermann Results Identical (5,727)					
2,155	++++	++++	184	+	+
242	+++	+++	114	±	±
251	++	++	2,781	—	—
Wassermann Results Stronger (594)			Kahn Results Stronger (2,340)		
183	+++	++++	310	++++	+++
38	++	++++	201	++++	++
11	+	++++	106	++++	+
4	±	++++	30	++++	±
3	—	++++	13	++++	—
103	++	+++	292	+++	++
22	+	+++	187	+++	+
4	±	+++	59	+++	±
4	—	+++	60	+++	—
73	+	++	212	++	+
10	±	++	105	++	±
14	—	++	172	++	—
45	±	+	192	+	±
41	—	+	220	+	—
36	—	±	181	±	—

COMMENT ON KAHN TESTS WITHOUT WASSERMANNS

From Oct. 15, 1925, when the Michigan Department of Health abandoned the Wassermann test, to April 15, 1927, a total of 125,000 Kahn tests were reported to Michigan physicians;[7] not only have there been no complaints during this time, but considerable satisfaction has been expressed by physicians throughout the state Physicians have been particularly pleased with the increased speed of service. Most specimens are reported between four and eight hours after their receipt in the laboratory, and all within twenty-four hours In an emergency case, such as in a blood transfusion, a Kahn report is made within an hour.

Table 3—*Comparative Results of Kahn and Wassermann Tests with 1,184 Spinal Fluids*

	Number of Specimens	Wassermann Results	Kahn Results
Results same with the two tests	471	Positive	Positive
	556	Negative	Negative
Fluids anticomplementary (A C) in Wassermann	60	A C	Positive
	20	A C	Negative
Results stronger with Kahn test	17	Doubtful	Positive
	8	Negative	Doubtful
	9	Negative	Positive
Results stronger with Wassermann test	17	Positive	Doubtful
	11	Doubtful	Negative
	16	Positive	Negative

The acceptability of the Kahn test is due to several factors The test is highly specific for syphilis; it is relatively free from sources of error; it is not influenced by anticomplementary serums, and its results may be obtained within a short space of time.

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[6] Keim, H L, and Kahn, R L Clinical Studies on the Kahn Reaction for Syphilis, J A M A 84: 881 (March 21) 1925

[7] This number represents that reported from the Lansing Grand Rapids and Houghton laboratories of the Michigan Department of Health

Since the Michigan Department of Health began using the Kahn test alone, many other institutions have taken the same step. In the tropics and in other parts of the world where climatic, geographic or other conditions make the use of the Wassermann test almost prohibitive because of its employment of unstable reagents and its general complexity, laboratories are instituting the Kahn test because of its comparative simplicity and ready availability.

SUMMARY

Comparative Kahn and Wassermann results with 174,580 serums indicate that the Kahn test is somewhat more sensitive than the Wassermann as it was employed in this laboratory.

Comparative Kahn and Wassermann results in 8,661 cases of syphilis under treatment also indicate greater sensitiveness of the Kahn test.

Similar comparative studies in 1,184 spinal fluids indicate comparable sensitiveness with the two methods, except that the anticomplementary properties of fluids which prevent a reading of the Wassermann do not interfere in any way with the Kahn reaction.

Experience with more than 300,000 Kahn tests reported to physicians indicates that this test is a dependable laboratory method in the diagnosis of syphilis.

SPIROCHETAL JAUNDICE

REPORT OF A CASE *

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In 1914, Inada and Ido [1] demonstrated that a spirochete is the causative agent of the form of infectious jaundice characterized by sudden onset, high fever, muscle pains, renal injury and a tendency to hemorrhage. The condition is frequently referred to as Weil's disease. In Germany, Huebener and Reiter,[2] and Uhlenhuth and Fromme [3] reached the same conclusion, independent of the work of the Japanese investigators. Because of its special morphologic features, a new genus was formed for the organism by Noguchi,[4] and it is now generally known in this country and in England as *Leptospira icterohaemorrhagiae*.

The relation of infectious jaundice, as seen in this country, to spirochetal jaundice, has given rise to considerable discussion. In 1923, Blumer [5] was able to state that spirochetes had not been demonstrated in a single case of jaundice in the United States, and he rightly considered as entirely gratuitous the general assumption that all cases of infectious jaundice were spirochetal in origin. During the past several years, however, evidence has accumulated which seems to indicate that the disease may not be at all infrequent. Altogether, six cases confirmed by laboratory examinations have been reported in North America, five from the United States, and one from Canada. These cases are briefly reviewed:

CASES PREVIOUSLY REPORTED

Case 1.[6]—A woman, working in a laboratory in Albany, N. Y., accidentally pricked her finger with the needle of a syringe containing a culture of *Leptospira icterohaemorrhagiae*, isolated from a rat caught at Albany. The incubation time of the infection was seven days, and the diagnosis was confirmed by guinea-pig inoculation. This case is especially instructive clinically in that jaundice was barely perceptible. The true nature of the disease would never have been suspected except for the history of the needle prick. Zeulzer [7] cites from French and German literature five instances of laboratory infection, two of which ended fatally. Another instance is reported by Adamski [8] in Warsaw.

Case 2.[9]—This case occurred in a man, aged 43, employed in New York state, who slept in a kitchen infested with rats. Clinically, the disease was marked by fever, jaundice, anuria, bloody vomitus, and death in convulsions. Leptospiras were demonstrated at autopsy in sections of the liver and kidney.

Case 3.[10]—In a man aged 51, living in Camden, N. J., occupation not stated, leptospiras were demonstrated by direct dark field examination of the patient's blood on the tenth day of the disease, an unusual observation. The clinical symptoms (fever, chills, prostration, severe bodily pains, muscular tenderness of the calves and intense jaundice), however, agree well with the diagnosis of spirochetal jaundice.

Case 4.[10]—A man, aged 44, occupation not stated, living in a cheap lodging house in Philadelphia, had been drenched in the rain one week previous to the onset of the disease. Leptospiras were demonstrated by inoculation of the urine into a guinea-pig on the eighth day of the disease.

Case 5.[11]—This was a fatal case, occurring in a man, aged 42, employed as a laborer (building excavator) in Philadelphia. The patient was almost afebrile during hospitalization (latter half of disease only). An autopsy was not performed. Leptospiras were demonstrated by direct microscopic examination of the blood on the sixth day of the disease, and by guinea-pig inoculation on the seventh day.

Case 6.[12]—In a man, aged 48, who had been working in a slaughterhouse in Toronto, Canada, leptospiras were found at autopsy, in sections of the kidney.

It is our purpose to report another case, in which the diagnosis was confirmed by guinea-pig inoculation and culture, and to call attention to certain clinical and epidemiologic features of the disease, as compared to other types of infectious jaundice.

REPORT OF CASE

History.—T. R., an Italian, aged 31, admitted to the Walter Reed General Hospital, Dec. 6, 1926, and employed as a salesman in the vegetable and meat section of a market, gave a negative history, except that he had cut his leg with a meat cleaver about three months before admission. He had not been outside the city of Washington for six weeks prior to the onset of the present illness.

The patient was well until Nov. 30, 1926 (taken as the day of onset), when he began to cough. There were no other symptoms until December 2, when he began to feel "chilly," with aching over the entire body, most severe in the legs and back. December 3, he had a severe frontal headache, a slight sore throat, severe backache, and pain and soreness in the chest and abdomen. The cough became slightly productive and "bloody," and his nose bled "most of the time." He was nauseated for four days before admission and vomited several times. He had nocturia and believed that the urine contained blood. He thought that he had had a yellow color for about four days, and felt as if he had a high fever.

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* From the Medical Service, Walter Reed General Hospital, and the Department of Preventive Medicine and Clinical Pathology, Army Medical School.

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11. Hayman, J. M., and Lynch, F. B.: Spirochetal Jaundice in the United States, Am. J. M. Sc. **173**: 80 (Jan.) 1927.

12. Bates, J. E.: Leptospirosis Icterohemorrhagica (Weil's Disease): Fatal Case, Canad. M. A. J. **16**: 1421 (Dec.) 1926.

Condition on Admission.—The temperature was 98.4, the pulse, 126 and the respirations, 28. There were no visual or auditory disturbances. The pharynx and conjunctivae were markedly injected. Blood pressure was 90 systolic and 60 diastolic. The pulse was irregular. The heart was normal. There were many fine râles over both bases. The spleen was not palpable. The liver extended 2 cm. below the costal margin. Jaundice was marked. The patient looked ill, his face was drawn, he complained bitterly of a severe frontal headache, and was restless. The blood count showed: red blood cells, 3 800 000, white blood cells, 19,000, hemoglobin, 75 per cent, polymorphonuclears, 92 per cent. The urine was bile colored and cloudy, the albumin was double plus, there were many granular casts, and tests were negative for leucine and tyrosine. The Wassermann and Kahn tests were negative. The direct van den Bergh test was positive, prompt and diphasic, the indirect, positive and strong. Urea nitrogen was 62, nonprotein nitrogen, 83 (mg. per hundred cubic centimeters). Blood sugar was 161, and creatinine, 2.

Course in Hospital.—The condition of the patient continued with little change until December 14. His jaundice then became deeper until he was almost of an orange tint. He vomited infrequently but continued to be nauseated. His greatest complaint was headache and general muscular pain. His nose bled repeatedly every day. The bowels became constipated and the stools were of the putty type. Blood and bile were found in the urine every day. The temperature remained below 100 F. this entire period.

December 14, he felt better, was brighter and asked for more to eat. He was having much less muscle pain and was nearly free of headache. The direct van den Bergh test, December 16, gave a diphasic reaction—prompt but clearly diphasic. The indirect test was positive, with 22 van den Bergh units. Nonprotein nitrogen was 29.6, urea nitrogen, 18, sugar 145 (mg. per hundred cubic centimeters). The urine showed a trace of albumin but no casts.

December 21, he complained of feeling weak and of having a slight headache. His temperature rose to 101.4 F. The following day it was 102 and the next day, 103. Except for the feeling of weakness and a slight headache, there was no repetition of the previous symptoms. This condition continued for nine days, sometimes with a temperature as high as 104. On the 30th this became normal and remained normal until his discharge, January 15.

During the attack the patient lost about 40 pounds (18 Kg.). His jaundice cleared very gradually, and a tinge remained in the sclerae at the time of his departure. There was extensive falling out of the hair during convalescence.

Detection and Culture of Causative Organism.—December 7 (the ninth day of the disease), 3 cc. of citrated blood was injected intraperitoneally into each of two white half grown guinea-pigs. The direct examination of this blood with the dark field microscope was negative for leptospiras. Eight days after the injection of the blood both pigs showed marked jaundice, especially evident in the sclerae, the ears and about the genitalia. Direct microscopic examination of the blood of the pigs showed motile leptospiras, about one to every three fields. One pig died on the afternoon of the eighth day and the other on the ninth day. Autopsy showed hemorrhagic areas from 2 to 4 mm. in diameter in the lungs, intense jaundice, and cloudy swelling of the viscera. Motile leptospiras were found in the heart's blood, and in great numbers in emulsions of the liver.

Two drops of heart's blood from one of the pigs was placed in Noguchi's leptospira medium.[13] Four days later microscopic examination of the medium showed growth of the organism in pure culture. Since then, the culture has been carried along without difficulty in successive transfers.

On the twentieth day of the disease, two guinea-pigs were each injected with 3 cc. of blood. Two additional pigs were injected on the twenty-second day of the disease. None of these four pigs developed jaundice or other sign of the disease.

The urinary sediment of the patient was examined twice (the twentieth and thirtieth days of the disease). Leptospiras were *not found*.

GENERAL FEATURES OF THE DISEASE; LABORATORY DIAGNOSIS

The symptoms of the patient seen by us agree closely with the disease as described by Japanese and Europeans. The absence of fever at the beginning of hospitalization is undoubtedly to be explained by the fact that the patient was not under observation during the first several days. Following Inada,[14] the typical case of the disease may for purposes of clinical description be divided into three stages.

Febrile Stage.—From the first to the fifth day. Initial chill usually, high fever; headache; cramping muscular pains, especially of the calves; frequently symptoms simulating meningitis (Zeulzer,[7] Martin and Pettit[15]); marked congestion of the conjunctivae, and albumin, casts and possibly red blood cells in the urine. The blood is always positive on guinea-pig inoculation during the first four days though the chance of demonstrating the organism in this manner diminishes after this time.

Icteric Stage.—From the sixth to the thirteenth day. The symptoms and fever of the first stage decrease. Icterus and a hemorrhagic tendency make their appearance. The hemorrhagic tendency is not so frequent in European cases. There is marked general weakness. Hiccup is frequent. In fatal cases death occurs during this stage, usually with convulsions and other symptoms of uremia.[16] The mortality in Europe varies in different statistics between 5 and 18 per cent. In Japan the mortality is higher: from 11 to 48 per cent.

Convalescent Stage.—From the fourteenth day to recovery. There is a gradual subsidence of the icterus and ordinarily continued improvement until complete recovery. Forty per cent of the cases in Europe and 28 per cent of the cases in Japan show a secondary rise of fever, beginning on about the fifteenth day. This secondary rise lasts from four to twenty days. It is not a relapse in the strict sense, for there is no return of the initial symptoms and the blood remains free of the organisms. Also, it seems that death does not ever occur during this secondary fever.

There are exceptions to this typical clinical picture. Patients admitted to the hospital several days after the onset may show little or no fever.

Further, jaundice is not a constant feature of the disease. This is well illustrated by the laboratory infection reported by Wadsworth.[6] From this standpoint the term leptospirosis icterohaemorrhagica is preferable. Stokes, Ryle and Tytler[17] estimate that jaundice was not present in more than 60 per cent of the leptospiral infections occurring in the British army in Flanders.

Although the clinical diagnosis may be made with a high degree of confidence in many patients, it is evident that many atypical cases may be entirely missed without laboratory examinations. The intraperitoneal injection of guinea-pigs, preferably young white animals, with 2 or 3 cc. of blood early in the course of the disease is the method of choice. They become markedly jaundiced after six to nine days, and leptospiras can be demonstrated in the circulating blood or in the tissues.

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[13] The following formula was used: Physiologic sodium chloride solution 8 parts, rabbit serum, 1 part, nutrient (2 per cent) agar 1 part, "rabbit hemoglobin," 0.2 part. The "rabbit hemoglobin" was prepared by adding 1 cc. of rabbit's blood to 3 cc. of sterile distilled water.

[14] Inada, R.: The Clinical Aspects of Spirochaetosis Icterohaemorrhagica or Weil's Disease, J. Exper. Med. **26**: 355 (Sept.) 1917.

[15] Martin, L., and Pettit, A.: Spirochetose icterohemorragique, Monographie de l'Institut Pasteur, Paris, Masson et Cie, 1919.

[16] Costa, S., and Troisier, J.: Deux epidemies d'ictere commun, Ann. de med. **16**: 180 (Sept.) 1924.

[17] Stokes, A.; Ryle, J. A., and Tytler, W. H.: Weil's Disease (Spirochaetosis Icterohaemorrhagica) in the British Army in Flanders, Lancet **1**: 142 (Jan. 27) 1917.

One gains the impression from Japanese and European authors that it is scarcely worth while to search for the organisms by the direct microscopic examination of the patient's blood, though it is to be noted that in two of the North American cases the diagnosis was promptly made in this manner. In one of them the finding was further controlled by positive animal inoculations. It is possible that concentration methods such as those outlined by Schüffner and Sieburgh [18] may further eliminate delays in diagnoses due to the incubation period in guinea-pigs. Such methods are also rendered desirable by the fact that guinea-pigs vary in their resistance to the organisms.

Later in the disease the organisms appear in the urine, and dark field examination of the centrifugalized sediment offers the best opportunity for demonstrating them. According to Inada,[14] the organisms are found in the urine of practically all patients at about the twentieth day of the disease, most numerous inside of cylindroids. We did not demonstrate the organisms in the urine of our patient, and it is to be regretted that more systematic examinations were not made. Martin and Pettit [15] have not found the organisms so constantly present in the urine as reported by Inada.

EPIDEMIOLOGY

Spirochetal jaundice, as it is occurs in Japan and in Europe, is especially prevalent among rice field workers, miners, sewer workers and ditch diggers, and many cases were recognized among troops occupying trenches in the World War. These occupations all require intimate contact with wet or marshy soil. In a great number of instances reported from England, France, Germany and Holland, the disease developed after swimming in, or falling into, rivers and canals. Butchers and cooks are also recognized as showing a high rate of incidence.

Although the disease may be endemic in certain areas, it occurs principally in sporadic cases, rather than in true epidemic outbreaks. Contact is not usually a means of dissemination, though Lyon and Buchanan [19] observed seven cases in children in which the spread of the disease was best explained on the basis of direct contact. It is to be noted that the American cases so far reported have been sporadic.

Ido, Hoki, Ito and Wani [20] found that a high proportion of wild rats and field mice harbor pathogenic leptospiras. Numerous surveys of rats have been made in practically all parts of the world. The results justify the assumption of the presence of the organisms in an appreciable proportion of rats everywhere. It has generally been supposed that these animals play a large part in the dissemination of the disease among human beings, by contaminating soil, water and food with their excrement. That rats do play a rôle in human infections has been apparently shown by the occurrence of two cases of infection following rat bites.[20]

In recent years interest has been shown in the possible pathogenicity of free-living leptospiras, known to occur widely distributed in nature. As a matter of fact, the organisms were observed in the free-living condition by Wolbach and Binger [21] before it was known that similar organisms were connected with disease. The organisms are present in the water of ditches, ponds and lakes. Hindle [22] cultivated them at will from London tap water, and similar experiments show that they are constantly present in the water supply of Washington. No evidence of pathogenicity has been obtained with the organisms here.

Two instances seem to indicate fairly definitely that these free-living organisms have or may acquire pathogenicity. Buchanan [23] found that leptospiras from a mine induced the typical infection in guinea-pigs, and Uhlenhuth and Zeulzer [24] observed that a water strain became pathogenic after prolonged cultivation in serum.

These observations have reopened the whole question of the epidemiology of spirochetal jaundice. Uhlenhuth and Grossman [25] stress the almost constant association between polluted water and the occurrence of cases in human beings. Rats and man, they believe, acquire the infection from these water or soil sources, although rats do not play any appreciable rôle in the spread of the disease in man. It had previously been demonstrated that pathogenic leptospiras may infect guinea-pigs through the shaven skin, and the skin may be the means of the acquisition of the disease by human beings.

OTHER TYPES OF INFECTIOUS JAUNDICE

With advances in bacteriology and epidemiology, a group of conditions known clinically as infectious jaundice (of unknown etiology) has been gradually reduced. Jaundice due to such conditions as malaria, typhoid, relapsing fever, yellow fever and streptoccal infection has been separated from the general group of "bilious fevers" as they were called in the first half of the nineteenth century and properly classified according to etiology. Spirochetal jaundice (leptospirosis icterohaemorrhagica) represents the latest loss from the general group. It by no means included everything remaining in the group, though this impression might be gained from the almost constant use of the terms spirochetal jaundice, epidemic jaundice, and infectious jaundice as synonyms. As already mentioned, Blumer protested against this assumption in 1923. Garnier and Reilly,[26] and Costa and Troisier [16] have especially attempted to clarify nosology in this field. Most cases of infectious jaundice of unknown etiology fall in one of two general classes:

1. *Catarrhal Jaundice.*—This term is probably not correct anatomically. Garnier and Reilly propose the term "acute afebrile icterus." The disease occurs as sporadic cases. The absence of high fever, prostration and conjunctival congestion separates it clinically from spirochetal jaundice. It appears, however, that there is not a sharp line of demarcation between catarrhal jaundice and mild cases of spirochetal jaundice (Martin and Pettit, Inado).

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21. Wolbach, S. B., and Binger, C. A. L.: Notes on a Filtrable Spirochaete from Fresh Water, J. M. Research **30**: 23, 1914.

22. Hindle, Edward: Leptospira in London Waters, Brit. M. J. **2**: 57 (July 11) 1925.

23. Buchanan, George: Spirochaetosis [illegible] Presence of the Causal Organism in Slime, Brit [illegible] 1924.

24. Uhlenhuth, P., and Zeulzer, M.: [illegible] und immunisatorischen Beziehungen des Errege[illegible] eit zu der freilebenden Wasserspirochaete, Klin. Wchnschr. **1**: 2124 (Oct. 21) 1922.

25. Uhlenhuth, P., and Grossman, H.: Die Aetiologie und Epidemiologie der ansteckenden Gelbsucht (Weilschen Krankheit), Klin. Wchnschr. **5**: 1113 (June 18) 1926.

26. Garnier, M., and Reilly, J.: Essai de classification des ictères infectieux primitifs, Presse méd. **28**: 813 (Nov. 13) 1920.

2. *Epidemic (Nonspirochetal) Jaundice.*—This is the "epidemic and contagious icterus" of Garnier and Reilly. Individual cases are clinically exactly the same as catarrhal jaundice. It is highly contagious, the most notable outbreak in this country consisting of the widespread epidemic reported by Wadsworth[6] and by Williams[27] in New York state during 1921-1922. It is probable that "camp icterus," which has played such a large part in military medicine, is to be classified here rather than as spirochetal jaundice. The 71,000 cases of jaundice occurring among Northern troops in the Civil War are almost always cited in American and European text books as examples of spirochetal jaundice. This is an error, for the individual outbreaks cited in the Medical and Surgical History of the War of the Rebellion[28] were all mild, without fatalities, and usually without fever, very similar to what was observed in the New York epidemic of jaundice.[29]

Troisier and Costa,[16] basing their conclusions on clinical and epidemiologic observations, believe that catarrhal jaundice is only the sporadic form of epidemic (nonspirochetal) jaundice, and they group the two conditions together under the term "ictère commun." Further, as a result of pathologic studies in the same epidemic, they consider that "acute yellow atrophy of the liver" is the severe form of this same "ictère commun." These views agree fairly closely with opinions expressed by Blumer and others.

Troisier,[30] however, later states that there is another form of infectious jaundice of unknown etiology besides "ictère commun." This form is febrile, possibly related to paratyphoid bacilli. Nichols[31] found evidence (agglutinins) of paratyphoid infection in jaundiced American troops returning from Europe. It is apparent that the last word has not been said concerning infectious jaundice of unknown etiology, and the situation is further complicated by the fact that neither the clinical nor the laboratory diagnosis of spirochetal jaundice is on an absolutely certain basis, especially as far as negative results are concerned.

RELATION OF SPIROCHETAL JAUNDICE TO YELLOW FEVER

Noguchi[32] described an organism, *Leptospira icteroides,* similar morphologically to *Leptospira icterohaemorrhagiae,* as the causative agent of yellow fever. Although closely related, Noguchi felt that there were enough immunologic differences between the two organisms to separate them. Recently, Theiler and Sellards[33] have reinvestigated the immunologic reactions of the two organisms and are unable to detect any differences. They state that we are faced with two alternatives, between which they do not attempt to decide: first, that *Leptospira icteroides* has nothing to do with yellow fever; second, that yellow fever and spirochetal jaundice are one and the same disease. However interesting speculation may be in this field, the decision between these alternatives, or modifications of these alternatives, must await the results of further investigations. The clinical similarity between spirochetal jaundice and yellow fever has long been recognized, though ordinarily it is only in the tropics that both conditions have to be considered in differential diagnosis.

SUMMARY

The case seen by us, from which we cultivated *Leptospira icterohaemorrhagiae* on guinea-pig inoculation, is apparently the sixth proved case of spirochetal jaundice to be reported in North America.

As usually observed in this infection, our case was sporadic.

Typical cases of spirochetal jaundice show a fairly definite clinical syndrome, consisting of sudden onset, fever and chills, prostration and severe muscle pains, jaundice appearing the fifth or sixth day. Because of the occurrence of atypical cases, laboratory control of the diagnosis by guinea-pig inoculations (early) or examination of urinary sediment (late) is necessary.

Spirochetal jaundice is probably prevalent in the United States, though it includes only a small proportion of cases classified as infectious jaundice (of unknown etiology) before the discovery of *Leptospira icterohaemorrhagiae.*

A review of the literature indicates that the disease is usually associated with polluted water or soil, possibly being caused by leptospiras living free in nature. It is also possible that the rôle played by rats in the dissemination of the disease has been overemphasized.

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27. Williams, Huntington: Epidemic Jaundice in New York State, 1921-1922, J. A. M. A. **80:** 532 (Feb 24) 1923.

28. Medical and Surgical History of the War of the Rebellion, part III, volume I (Medical History), p. 874, Washington, Government Printing Office, 1888.

29. It is also generally the custom to cite the infections mentioned by Larrey (Mémoires de chirurgie militaire et campagnes, volume 2, Paris, Smith, 1812) during Napoleon's Egyptian campaign as probable instances of spirochetal jaundice. It is true that Larrey called attention to the similarity of the symptoms with the symptoms of yellow fever in America. The cases described by him, however, were confined almost entirely to the wounded. The infection developed in the hospital, it seemed to spread by contact, and the severity was directly related to the extent of wound gangrene. These unusual features place the retrospective diagnosis of these cases on an exceedingly frail basis

30. Troisier, J.: L'ictère commun: ses formes cliniques, Presse med **55:** 509 (June 6) 1925.

31. Nichols, H. J.: Agglutination of Typhoid Group of Organisms in Cases of Jaundice Among Vaccinated Persons, J A M. A **81:** 1946 (Dec. 8) 1923.

32. Noguchi, Hideyo: Comparative Immunological Studies on Leptospira Icteroides and Leptospira Icterohaemorrhagiae, J Exper Med **31:** 135 (Feb) 1920.

33. Theiler, M., and Sellards, A. W.: The Relationship of L Icterohaemorrhagiae and L. Icteroides as Determined by the Pfeiffer Phenomenon in Guinea-Pigs, Am. J. Trop Med **6:** 383 (Nov) 1926.

COMMERCIAL BACILLUS ACIDOPHILUS AND BACILLUS BULGARICUS CULTURES AND PREPARATIONS

BACTERIOLOGIC STATUS *

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The use of *Bacillus acidophilus* in the treatment of abnormal intestinal conditions has attained marked popularity within the last few years, not alone in scientific circles, but with the layman as well. The demand for methods of administration in which the patient can be relieved from immediate dependence on bacteriologist and laboratory has led to the marketing of various kinds of preparations, liquid, solid and semisolid. It is well known that the life duration of such bacterial "cultures" is short, and that the products may become worthless after a comparatively brief period of time. There are few commodities on the retail market the quality of which is so dependent on scientific control as these preparations. The present survey was undertaken in order to obtain more definite information regarding their purity and viability. Because of the close similarity in their nature and uses, both acidophilus and bulgaricus preparations have been included in the study.

Bass,[1] in a brief survey of solid culture products, reports as follows: "In the instance of tablets, none of those examined were found to contain as many as 1,000 viable bacteria of any kind per tablet." He calculates that if all bacteria present had been *B. acidophilus,* "it would take about 1,000,000,000 tablets to contain as many bacilli as are contained in 1,000 cc. of acidophilus milk."

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* From the Microbiological Laboratory, Bureau of Chemistry, U. S. Department of Agriculture.

[1] Bass, C C Transformation of the Intestinal Flora, Ann. Clin Med **1:** 25 32 (July) 1922.

Recently, the Council on Pharmacy and Chemistry[2] of the American Medical Association published the answers to questionnaires submitted to seven well known scientists who have studied the problems of *B. acidophilus* therapy. All consultants agreed that there was no evidence of intestinal implantation with *B. acidophilus* by the use of what are classed in this paper as solid or semisolid cultures. One consultant wrote, "Since acidophilus therapy has been proved to be essentially a bacteriologic phenomenon, the necessity for a large number of viable organisms seems to me evident. My personal experience is that when the count drops below 100,000,000 per cubic centimeter the results are not satisfactory."

In general, all these workers agreed to the conclusion that lactobacilline preparations should contain abundant viable organisms true to the species claimed. The way was thus open for a comprehensive survey of those preparations as found on the market during the summer of 1926. The samples used in this study were obtained by buying containers of each product from the retail market, usually found in pharmacies. One hundred and seven samples, of which thirty-four were broth and twenty-eight milk cultures, and thirty-four tablet, three powder and eight semisolid preparations, were collected from twenty-one cities in nine states and in the District of Columbia. Immediately on receipt at the laboratory, the samples were placed in storage at 10 C. to await examination. Liquid cultures consisted of either milk soured by the desired organism or whey suspensions of bacteria. Solid preparations were either tablets or powder in capsules. Semisolid products were solidified agar or petrolatum plus other ingredients in which bacteria had been suspended.

ANALYSIS OF PREPARATIONS

The routine examination adopted was as follows:

1. Liquid (broth or milk) cultures:

(*a*) One cubic centimeter of the culture was inoculated directly into each of two tubes containing 20 cc. of litmus milk. The largest amount of culture inoculated was 1 cc.

(*b*) One cubic centimeter of the culture was added to 9 cc. of sterile water, and 1 cc. of this dilution was inoculated into the first set of plates. Different platings were made in triplicate with dilutions to 1:100,000,000. The largest amount of culture plated was 0.1 cc.

2. Solid (tablet or powder) preparations:

(*a*) Three tablets or the powder from three capsules was dissolved in 30 cc. of sterile water.

(*b*) One cubic centimeter of this dilution was then added to each of two tubes containing 20 cc. of litmus milk. The largest amount of culture inoculated was 0.1 cc.

(*c*) One cubic centimeter of the dilution used in *a* was seeded in the first set of plates. Higher dilutions were then plated. All platings were made in triplicate. The largest amount of culture plated was 0.1 cc.

3. Semisolid or jelly cultures:

(*a*) Cultures liquefying at 40 C. These usually had a consistency resembling that of petrolatum. A sterile glass tube (inverted 10 cc. pipet with full size opening) was thrust to the bottom of the jelly and the subsample thus obtained blown into a sterile tube. The tube and subsample were placed in a 40 C. bath, where the jelly was melted and could be handled with a previously warmed pipet. After thorough mixing, 1 cc. was transferred to 9 cc. of warmed sterile water and vigorously shaken.[3]

(*b*) Cultures not liquefying at 40 C. These consisted of solidified agar in which bacteria were suspended. The agar was molded in cubes, each wrapped separately. One cube being considered as one dose, it was selected as the unit. Each cube was thoroughly ground in a sterile mortar, after which 10 cc. of sterile water was slowly added, with continued grinding until an even suspension was obtained. Sterile dry sand was used when necessary, but sparingly in order to avoid rupturing the bacteria.

Table 1.—*Results of the Examination of Milk Cultures*

Produced by Manufacturer Number	Organisms Claimed	Age of Product*	Bacterial Count per Cc. of Milk		Predominating Organisms Found
			Whey Galactose Agar	Plain Agar	
1†	Acidophilus	+7	1,240,000,000	0	B. acidophilus
	Acidophilus	+6	96,000,000	0	B. acidophilus
	Acidophilus	−5	78,500,000	0	B. acidophilus
	Acidophilus	−31	0	0	
2	Acidophilus and others	X	0	10	
	Acidophilus and others	X	0	0	
	Acidophilus and others	X	0	0	
3	Acidophilus	X	1,700,000	0	Not B. acidophilus
4	Acidophilus	+27	200,000,000	0	
	Acidophilus	+7	300,000,000	0	B. acidophilus
	Acidophilus	−3	200,000,000	0	B. acidophilus
5	Acidophilus	X	30,600,000	0	Mixed, including B. acidophilus
6	Acidophilus	X	120,000,000	23,000	
	Acidophilus	X	832,000	300	B. acidophilus
	Acidophilus	X	450,000	1,500	
7	Bulgaricus	X	1,000,000,000	375	Streptococcus and doubtful B. bulgaricus
	Bulgaricus	X	16,500,000	0	Mixed, including B. bulgaricus
	Bulgaricus	X	475,000	350	Mixed, including B. bulgaricus
8	Bulgaricus	X	3,100,000,000	20	Streptococcus and B. bulgaricus
	Bulgaricus	X	700,000,000	30	Streptococcus
	Bulgaricus	X	550,000,000	30	Doubtful B. bulgaricus
9	....	X	40,000,000	20	
		X	21,000,000	100	
		X	464,000	0	
10	Acidophilus	X	4,750,000,000	0	Not B. acidophilus
	Acidophilus	X	1,775,000,000	0	Not B. acidophilus
11	Acidophilus	X	520,000,000	200	
	Acidophilus	X	2,160,000,000	1,200	Streptococcus and B. acidophilus

* A number preceded by a plus sign indicates the number of days preceding, and a minus sign the number of days following, the expiration date on which the sample was examined. X indicates absence of any time limit.

† Products 1, 2 and 3 are the same in all tables.

The results of the analysis listed in the accompanying tables include only data of primary interest. The results of the inoculations into litmus milk furnish only comparative information and are not included here. All platings for total counts were made in triplicate, two being in whey-galactose agar and the third in plain agar. One set of whey-galactose agar plates was incubated in an atmosphere of 5 per cent carbon dioxide, after the method of Kulp,[4] and the other incubated in the ordinary manner. In most of the samples, if colonies resembling *B. acidophilus* or *B. bulgaricus* appeared, a slightly greater count was obtained with the use of the carbon dioxide than without. As these counts present the commercial product most favorable, the figures obtained from culture in the presence of carbon dioxide are given in the accompanying tables. The platings made with plain agar were intended to show the extent of the presence of organisms other than *B. acidophilus* and *B. bulgaricus.*

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[2] Council on Pharmacy and Chemistry, Present Status of Bacillus Acidophilus and Bacillus Bulgaricus Therapy, J. A. M. A. 87:172 (July 17) 1926.

[3] The weakness of this method is apparent. In all cases but one in which a reaction in milk was obtained, bacteria were found in the water suspension, and the method is believed to give a fair indication of the bacterial status of the product. In one instance in which a typical B. acidophilus reaction was obtained in milk, colonies closely resembling acidophilus were obtained in the agar plates.

[4] Kulp, W. L.: The Determination of Viable Lactobacillus Acidophilus, Science 64:304-306, 1926.

TABLE 2.—*Results of the Examination of the Broth Cultures*

Produced by Manufacturer Number	Organisms Claimed	Age of Product	Bacterial Count per Cc. of Broth Culture: Whey Galactose Agar	Bacterial Count per Cc. of Broth Culture: Plain Agar	Predominating Organisms Found
1	Bulgaricus	+23	160,000	0	
	Bulgaricus	+6	0	0	
	Bulgaricus	+5	2,100,000	1,700,000	
2	Acidophilus	+38	10	0	Doubtful B acidophilus
	Acidophilus	+25	10,000	1,300	Doubtful B. acidophilus
	Acidophilus	+21	570 000	0	Doubtful B acidophilus
	Acidophilus	—1	2,260	0	Doubtful B. acidophilus
3	Acidophilus	+160	28,000,000	6,100,000	Not B acidophilus
	Acidophilus	+63	250,000,000	0	Not B. acidophilus
	Acidophilus	+3	10,000,000	0	Not B. acidophilus
	Bulgaricus	—21	0	0	
4	Acidophilus	+25	40	10	
		+15	1,800,000	0	B bulgaricus
		+15	0	0	
	Acidophilus	+10	20,000	80	
	Acidophilus	+7	12,000	8,000	
	Acidophilus	+4	6,000	15,000	
		+1	100	70	B acidophilus
5	....	+158	35	0	
	Bulgaricus and acidophilus	+129	0	0	
	Bulgaricus and acidophilus	+122	0	0	
	Bulgaricus and acidophilus	+80	0	0	
	Bulgaricus and acidophilus	+73	0	0	
	Bulgaricus and acidophilus	+66	0	0	
	....	+31	0	0	
	Bulgaricus and acidophilus	+17	0	0	
	Bulgaricus	X	0	0	
	Bulgaricus	X	0	0	
	Bulgaricus	X	0	0	
6	Acidophilus	+11	0	0	
	Acidophilus	+22	0	0	
7	*Bulgaricus*	+46	2,000	0	Probably B. acidophilus
	Acidophilus	+35	65,000,000	0	Not B. acidophilus
8	Bulgaricus and acidophilus	X	500,000	800,000	Not B acidophilus nor B. bulgaricus

Pure strains of the predominating type of organism were isolated from the agar plates from as many samples as time would permit. Types which were obviously contaminants, such as spreaders, were not isolated. On the other hand, if only one colony suggesting *B. acidophilus* or *B. bulgaricus* appeared on a plate, care was taken to obtain a culture from it. The identification of the organisms obtained has been made by a study of the following characteristics:

1. Colony type in whey-galactose agar.
2. Gram stain and morphology.
3. Reaction in litmus milk.
4. Acidity produced in milk.
5. Fermentation of levulose, maltose and sucrose.

It is recognized that these tests do not furnish positive identification of unknowns of the type considered here. With the possible addition of the medium recommended by Albus and Holm,[5] however, they constitute practically our sole means of differentiation in vitro.

Gram stained preparations were made from young whey-galactose agar colonies. Colony types were studied in plates of whey-galactose agar, which was made according to Rettger and Cheplin.[6] The titration of the acdiity was made in litmus milk and calculated as lactic acid. Kulp and Rettger[7] have shown that differentiation in sugar broths which have been sterilized in the usual manner, i. e., by autoclaving, is only partially reliable, and that the use of test broths wherein the carbohydrate has been sterilized by filtration leads to more clear-cut results. For this reason, solutions of the test sugars were sterilized by being passed through Berkefeld filters and then added to sterile casein-digest broth. The inoculum was obtained by growing the organism in whey-galactose broth, removing by centrifugalization, washing in saline solution, recentrifugalizing, and resuspending in saline solution. As a control on the viability of the inoculum after the foregoing treatment, whey-galactose agar plates were seeded after the inoculation of the sugar broths. Only those organisms

TABLE 3.—*Results of the Examination of the Solid Cultures*

Produced by Manufacturer Number	Organisms Claimed	Age of Product	*Bacterial Count* per Tablet: Whey Galactose Agar	*Bacterial Count* per Tablet: Plain Agar	Predominating Organisms Found
1a*	Bulgaricus and acidophilus	+167	1,480	3,000	Streptococcus
	Bulgaricus	+146	0	0	
	Bulgaricus	+140	3,000	70	
	Bulgaricus	+136	0	30	
	Bulgaricus	+92	102,000	80,500	Streptococcus
	Bulgaricus and acidophilus	+91	130	340	
	Bulgaricus and acidophilus	+69	560	600	
	Bulgaricus	+49	10	50	
	Bulgaricus	+35	30	50	Streptococcus
2	Acidophilus	+57	400,000	50	B acidophilus
	Acidophilus	+49	1,600,000	30,000	Probably B acidophilus
	Acidophilus	+36	1,800,000	60	Probably B acidophilus
	Acidophilus	+30	800,000	110	Probably B acidophilus
	Acidophilus	+17	1,300,000	10	B acidophilus
	Acidophilus	+10	140,000	40	Probably B acidophilus
	Acidophilus	—20	113,000	39	Probably B acidophilus
3	Bulgaricus	+78	2,000	50	
	Acidophilus	+45	1,070	900	Not B acidophilus
	Acidophilus	+35	10,000,000	4,000,000	Streptococcus
	Acidophilus	+31	6,000,000	400,000,000	Staphylococcus
4	Bulgaricus	+65	310	20	Probably B bulgaricus
	Bulgaricus	+64	16,000	10	Probably B. bulgaricus
	Bulgaricus	+35	95	20	Probably B bulgaricus
	Bulgaricus	+35	10	60	Probably B. bulgaricus
	Bulgaricus	+7	30	65	Probably B bulgaricus
5	....	+286	220	0	Streptococcus
		+262	0	0	
		+178	10	10	Streptococcus
	Bulgaricus	+148	0	0	
		+109	0	70	
		+31	0	0	
	Bulgaricus	—2	0	55	
6	Bulgaricus	X	30	80	
	Bulgaricus	X	30	105	
	Bulgaricus	X	0	5	
7	Bulgaricus	+94	0	20	
8	Acidophilus	X	0	20	

* 1a is a different producer from 1.

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[5] Albus, W. R, and Holm, G E.: The Effect of Surface Tension upon the Growth of Lactobacillus Acidophilus and Lactobacillus Bulgaricus, J. Bacteriol. 12: 13 18 (July) 1926.

[6] Rettger, L. F, and Cheplin, H. A The Transformation of the Intestinal Flora, with Special Reference to the Implanation of Bacillus Acidophilus, Yale University Press, 1921

[7] Kulp, W L, and Rettger, L F Comparative Study of Lactobacillus Acidophilus and Lactobacillus Bulgarius, J Bacteriol 9: 357-394 (July) 1924.

were studied that produced a reaction in litmus milk apparently identical with that of *B. acidophilus* or *B. bulgaricus.*

SUMMARY

In summarizing the results of the survey, several pertinent facts are worthy of mention: 1. The milk cultures showed the highest average counts, the whey cultures next to the highest, and the solid cultures the lowest (omitting the inaccurate results of the semisolid cultures). 2. All samples of one type from any one producer, examined before the expiration date, were more or less similar in quality, regardless of their age. 3. Liquid and solid preparations marketed by the same producer were somewhat similar in quality. 4. Contaminating organisms were more common in solid than in broth or milk cultures. 5. Of thirty-three strains of organisms isolated from cultures claimed to be *B. acidophilus,* nineteen showed a possibility of being that organism and fourteen did not; and of fifteen organisms isolated from preparations claimed to be those of *B. bulgaricus,* ten showed a possibility of being that organism and five did not.

Table 4.—*Results of the Examination of the Semisolid Cultures*

Produced by Manufacturer Number	Organisms Claimed	Age of Product	Bacterial Count per Cc. of Sample		Predominating Organisms Found
			Whey-Galactose Agar	Plain Agar	
1	Acidophilus	+91	8,000	0	Not B. acidophilus
2	Acidophilus	+418	20	0	
	Acidophilus	+416	0	0	
	Acidophilus	+408	0	30	
	Acidophilus	+315	40	0	Probably B. acidophilus
	Acidophilus	+246	160	0	Probably B. acidophilus
	Acidophilus	—1	0	0	
8	Acidophilus	Examined 116 days after issued	35 per block	100 per block	

CONCLUSIONS

Therapeutic claims were disregarded in this survey. Of 107 samples examined, thirteen produced the species claimed on the label in reasonably pure form and in satisfactory number. Of the remaining samples, fifteen were sufficiently pure and presented viable organisms in sufficient number to have possible value. The others were worthless as representing cultures of the species claimed.

There is need of revision of the present methods of marketing acidophilus and bulgaricus cultures and preparations, and of adequate, scientific supervision of the purity and viability of such products.

Human Factor in the Causation of Accidents.—A special personal susceptibility to accident exists, inherent in the individual and differing from one individual to another. A comparatively small number of workers is responsible for an undue proportion of accidents, although all are exposed to the same risk. This small group is also found to have higher invalidity rates, and to pay more visits to the ambulance room for minor sicknesses; similarly it sustains more accidents at home as well as in the factory. Clearly a promising method of tackling reduction of accidents is to exclude from risk those possessing this tendency to sustain accidents. One question awaits further investigation, namely, whether any relation exists between the tendency to sustain major and minor accidents.—Medical Research Council 34, London, 1926; Abstr. *Bull. Hyg.*, December, 1926.

HEAT INJURIES

A PREPARATORY STUDY FOR EXPERIMENTAL HEAT-STROKE

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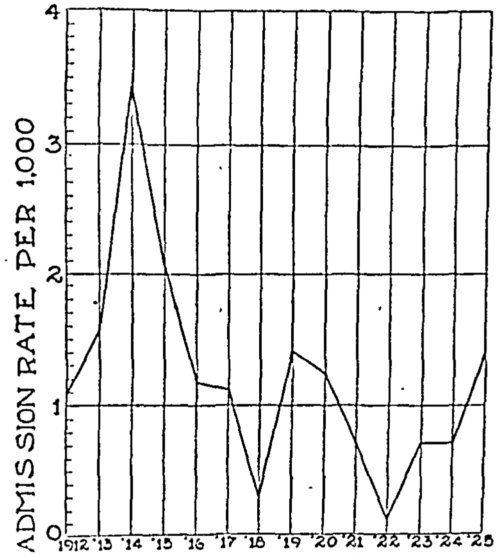
In the latter part of the summer of 1926, several patients suffering from the injurious effects of heat were admitted to the medical service of the Naval Hospital, Washington, D. C., and all recovered uneventfully except one. This patient was left with some mental confusion and somatic delusions which he still had at the time of discharge from the hospital. A review of the subject at this time revealed that very little is known of the mechanism of production of the various forms of heat injury.

As a preparatory study to experimental investigation in heat-stroke in dogs, it was decided to make a study of heat injury in the United States Navy over a period of several years. In this report, besides giving the aspects of heat injury in the navy, we shall give as concisely as is possible an historical sketch which includes the theories, clinical observations and studies in the past. These will be referred to in a future communication.



Heat injuries in the United States Navy, including heat cramps, heat exhaustion, sunstroke and thermic fever, for the fiscal years 1912-1925.

The various heat injuries that occur in the fire and engine rooms of ships have been of particular interest to naval medical men since the advent of steamships in the navy. Many accurate descriptions have been given of these, at times, wholesale injuries. To attempt to add to these descriptions would be superfluous. Gihon[1] was the first medical man of our navy to mention the effect of heat on men in the fire room of naval vessels. Gihon writes: "Dr. Kitchen informed me that while surgeon of the monitor *Dictator* it was common for men to be brought to him for treatment with coma, stertorous breathing, great heat of the skin, full quick pulse and often convulsions. The cause was manifestly enough the exhausting labors of a watch in the fire room, where the temperature averaged 145 degrees." In another communication this writer[2] cites that instances of heat-stroke were undoubtedly produced in the "old navy," when the significantly termed "sweat-box" was a favorite means of punishment. "Men fell forward unconscious, with burning skin and bounding pulse, when the doors were opened after a brief period of confinement in the coffin-like boxes in which they were compelled to stand upright, and were placed on the sicklist as suffering from that indefinite affection 'adynamia.' "

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[1] Gihon, A. L.: Naval Hygiene, Government Printing Office, Washington, 1873, p. 109.

TABLE 1.—*Heat Injuries in the Navy from July 1, 1911, to July 1, 1926*

Year	Average Complement, Medical Returns	Heat Cramps	Heat Exhaustion	Sunstroke	Thermic Fever	Deaths from Sunstroke	Deaths from Heat Exhaustion	Invalided, from Sunstroke	Invalided, from Heat Exhaustion	Heat Cramps, Total Days Sick	Heat Exhaustion, Total Days Sick	Sunstroke, Total Days Sick	Thermic Fever, Total Days Sick
1912	60,926	..	63	3	11	..	1	..	1	..	330	9	67
1913	65,926	61	32	1	5	..	..	..	2	111	243	2	33
1914	67,141	94	113	10	13	2	2	1	..	167	657	90	46
1915	68,075	68	60	5	9	..	1	..	..	154	302	13	29
1916	69,294	59	53	3	16	..	..	..	..	167	286	23	29
1917	245,580	89	163	12	16	..	1	..	..	266	640	177	60
1918	503,792	115	1	27	12	1	..	4	..	267	2	351	51
1919	298,774	152	210	16	7	..	4	..	..	463	938	57	52
1920	140,773	50	105	8	13	..	..	..	..	114	868	226	55
1921	148,861	28	71	7	3	..	..	..	..	135	356	49	89
1922	122,126	14	1	3	1	1	..	..	..	45	2	85	2
1923	116,565	19	61	1	3	..	2	..	..	42	249	2	8
1924	119,280	20	57	8	1	..	1	..	..	55	146	67	7
1925	115,391	95	60	2	4	..	..	..	..	271	256	25	7

In 1913, Fisk[3] supplemented Gihon's work and brought the available naval statistics up to July 1, 1911. The many factors of hygienic importance concerning the clinical aspects of heat injuries have been described from time to time. Of these reports, the following may be mentioned along with Gihon's and Fisk's works: Gatewood,[4] Grunwell,[5] Pryor,[6] and, more recently, Phelps.[7]

Table 1 and the chart present the heat injuries as they have occurred in the navy from July 1, 1911, to July 1, 1926. During this period, there were 2,049 instances of heat injury, sixteen deaths and eight invalided from the service. There was a total of 9,234 days sick. The percentage of mortality, based on morbidity, was 0.07; and the percentage invalided from the service, based on morbidity, was 0.03. The total number of days sick is a little high because all those admitted with a heat injury diagnosis which was changed while the patient was under observation were disregarded. The average number of days sick was 4.5. This study supplements Fisk's work, which incorporated Gihon's statistics. Fisk's table showed a total of 2,855 cases, thirty-five invalided from the service, twenty-two deaths and 12,849 days sick, with an average of 4.5 days sick. The remarkable thing shown in table 1 and the chart is the relatively small increase in the number of heat injuries with an actual decrease in rate per thousand in the navy during the Great War in view of the fact that there were so many more men in the service at that time.

Beginning with statistics of July 1, 1923, and ending Jan. 1, 1926, a study was undertaken to see whether there was any evidence which indicated that acclimation was a factor in the production of heat injury. The United States and its possessions were divided into two sections. The total number enlisting from the various states during this period was ascertained from Bureau of Navigation reports. From the "F" cards on file in the Bureau of Medicine and Surgery, the dates of birth, the approximate dates of enlistment, and the places of birth of the men suffering from heat injuries in this period were ascertained. This, in all probability, for practical purposes, formed a rough basis in determining whether a man was a native of the northern or southern section of the United States. The results of the study are presented in table 2.

This study would appear to indicate that those born and reared in the northern part of the United States are somewhat more susceptible to heat than those of the southern section. If this statistical analysis can be trusted, it supports the common belief that acclimation is a factor in the development of heat injuries.

TABLE 2.—*Acclimation as a Factor in the Production of Heat Injury*

	Number Enlisted			
Northern Section	Fiscal Year 1924	Fiscal Year 1925	Fiscal Year 1926	Instances of Heat Injuries
Connecticut	682	354	433	5
Illinois	884	469	344	7
Indiana	723	218	227	10
Iowa	488	328	268	2
Kentucky	266	308	183	4
Massachusetts	1,375	745	669	14
Michigan	1,068	705	443	2
Minnesota	737	247	240	5
Nebraska	398	297	271	1
New Hampshire	....	14	.	.
New Jersey	.	222	207	10
New York	2,302	1,762	1,206	20
Ohio	880	338	281	1
Oregon	477	344	405	.
Pennsylvania	1,940	1,818	665	30
Rhode Island	521	311	246	2
Utah	521	58	147	..
Washington	207	.	315	3
Wisconsin	277		168	5
Totals	13,828	8,768	6,718	121
Grand total of enlistments during the period				29,294
Percentage of incidents of heat injuries				0 0041
Southern Section				
Alabama	787	257	353	9
Arkansas	492	286	411	1
California	2,423	1,291	1,791	2
Colorado	568	368	1,369	3
Cuba	8	4		.
District of Columbia	235	388	8	3
Florida	216	335	60	5
Georgia	1,167	509	371	10
Guam	36	55	3	1
Louisiana	524	456	259	5
Maryland	970	491	311	2
Missouri	2,243	1,420	708	9
North Carolina	1,183	528	429	15
Philippine Islands	775	178	275	4
Samoa	30	30	21	.
South Carolina	*50*	*41*	.	*4*
Tennessee	724	351	274	7
Texas	916	400	367	4
Virginia	1,076	. .	49	7
Totals	*14,881*	*7,266*	*7,069*	*89*
Grand total of enlistments during the period				29,198
Percentage of incidents of heat injuries				*0 0030*

HISTORICAL

Heat-stroke or sunstroke is the oldest known disease.[8] The ancients associated the disease with Sirius, the dog star, and dog days. This association is probably accounted for when it is recalled that in the summer months Sirius follows the sun and is seen in the evening twilight. The oldest records of the disease are the biblical cases. In the fourth book of the Kings, Chapter IV, verses 18 to 20, inclusive, the following is found: "And the child grew. And on a certain day, when he went out to his father to the reapers, he said to his father: 'My head acheth, my head acheth . . .' And when he had taken him, and brought him to his mother, she set him on her knees until noon, and then he died." In the apocryphal book of Judith, chapter VIII, verses 2 and 3, is found: "And her husband was Manasses, who died in the time of the barley harvest; for he was standing over them that bound sheaves in the field; and the heat came upon his head, and he died in Bethulia, his own city, and was buried there with his fathers." One of the oldest records of the occurrence of the disease at sea is that of the British frigate *Liverpool*. In 1841, this vessel was proceeding from Muscat to Bushire; the weather gradually became warmer; double awnings were spread, the decks kept constantly wetted, and every precaution used to prevent exposure of the men; yet in one day, from a species of coup de soleil, three lieutenants and thirty men were lost. It was stated that at one time the decks resembled a slaughterhouse, so numerous were the bleeding patients.[9] In Peking, in July, 1743, 11,000 persons are said to have perished on the streets from the effects of heat.[10]

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[2] Gihon, A. L: Heatstroke, Twentieth Century Practice, New York **3**: 751 786, 1895

[3] Fisk, C N: The Effects of Exposure to Heat on the Working Organism, Am. J. M. Sc **145**: 565-585, 1913

[4] Gatewood, J. D.: Naval Hygiene, Philadelphia, P. Blakiston's Son & Co, *1909*

[5] Grunwell, A G: Report of Sixteen Cases of Heat Prostration, with Remarks on Etiology, U. S Naval M Bull **3**: 223 230 (July) 1909.

[6] Pryor, J. C: Naval Hygiene, Philadelphia, P Blakiston's Son & Co, 1918, pp 367 373.

[7] Phelps, J. R: Heat Cramps and Heat Exhaustion on Board Ships of the Navy in Recent Months, U S Naval M. Bull **24**: 145 154 (Jan) *1926*.

[8] Osler, William; and McCrae, Thomas Principles and Practice of Medicine, ed 10, New York, D. Appleton & Co, 1925 p 378

From biblical times until 1852, all instances of heat-stroke were confounded with apoplexy. This point is clearly illustrated by the writings of Forestus,[11] in 1562. Baglivi[12] of Rome, in 1694 and 1695, observed an epidemic of apoplexy which was imputed to the unusual condition of the weather in those years. About the first of October, 1695, there were fifteen days of rain which was followed by an outburst of apoplexies. Baglivi must have realized the many factors that entered into the disease. He mentions mental distress (referring to the wars in Europe at this time), the rain, the wind, the earthquakes and the inadequate supply of food. Lancisi, according to Levick,[13] was the first to publish evidence of the influence of hygrometry in the etiology of heat affections. Heat-stroke in animals other than man was recorded by Mosley[14] in 1803.

In 1789 Dr. Benjamin Rush[15] called attention to a disorder occasioned by the drinking of cold water in warm weather and described the symptoms of heat-stroke very accurately. The drinking of water, of course, was a symptom of the disease rather than the cause. The idea that the intake of cold water was the cause of the disease went so far that in the summer of 1814 the pumps in Philadelphia were posted with cautions, by the order of the Humane Society, against sudden death from drinking cold water.[16] J. Watts, Jr.,[17] protested against attributing to water the effects of heat. This observer was probably the first to note that the body temperature was elevated in major heat affections. W. W. Gerhard[18] clearly separated the instances of heat-stroke from apoplexy by noting that there were no gross changes in the brain in the former. Andral[19] of Paris was the first to note the relation between high atmospheric temperatures and heat-stroke. He gave the first accurate account of the major postmortem findings, namely, petechiae, liquid blood and venous engorgement. In 1834, J. J. Russell[20] of the British army noted pulmonary congestion, and he erroneously concluded that the chief seat of the mischief was in the chest.

Heat-stroke occurring in places other than in the sunlight was first fully described by Condie.[21] This observer was the first to emphasize the humidity of the air as an important etiologic factor. His patient, a negro preacher, was suddenly attacked, during his sermon in a crowded and overheated church, by convulsions alternating with tremors. The pupils were dilated, the pulse thready, and the skin covered with cold, clammy sweat. In brief, this is a good clinical history of heat-stroke.

The best illustration of the confusion which arose after the observation had been made that major heat injuries could be produced elsewhere than in a blazing sunshine is found in the many names the disease has received—heat-stroke, ictus caloris, prostratio thermica, coup de chaleur, colpo di calore, Hitzschlag, Warmschlag, heat-apoplexy, heat-asphyxia, heat-dyspnea, heat-exhaustion, thermal, thermic fever, ardent fever, phrenitis aestiva, phrenitis calenture, erethismus tropicus, insolation and siriasis.

From the time of Claude Bernard's[22] experimental work on the effects of heat, the theories of the disease are largely based on experimental observations, which will be given in a future communication.

The first therapeutic measures recorded consisted largely of "spiritual healing," but the possibility of a physical element is introduced. After the Staff of the Man of God had been placed on the face of the Shunammite's child and failed, we read: "And when Elisha was come into the house, behold, the child was dead, and laid upon his bed. . . . And he went up, and lay upon the child, and put his mouth upon his mouth, and his eyes upon his eyes, and his hands upon his hands; and he stretched himself upon the child, and the flesh of the child waxed warm." Artificial respiration or the carbon dioxide therapy? Blood-letting, the therapeutic sheet-anchor through all the ages, a procedure which Weir Mitchell insisted on having after he had largely recovered from sun-stroke (eleven days), has been a favorite treatment in the past and even now in "selected cases." Lancisi, as early as 1739, recommended the use of iron in the debilities following heat injuries. The origin of this beneficial therapy undoubtedly is due to the severe secondary anemia which followed the bloodletting

The use of cold applications was first mentioned by Coates, and became so popular, and perhaps overused, that in 1854 Swift[23] made the following statement: "Indiscriminate use of cold affusions is productive of harm. Injurious and often fatal effects result from them." Cautious application of ice over the whole body was first advocated by Darrach.[24] The first fully intelligent application of cold was probably made by Levick[25] in 1856. His patient had a temperature of 109 F., and recovered by using cold applications. Opiates have long been a favorite method of treatment of sunstroke. They were first recommended by Rush.[15] Ether and chloroform are favorites for convulsions. The immediate removal of the patient from the heat, loosening and removing tight clothes, and reducing body temperature by any means have sufficed in most cases. The importance of this treatment has been shown by the British army surgeons[26] In a condition in which either the injury is acutely fatal or the imminent danger soon passed, it is not hard to understand why so many remedial measures have been used, and results claimed from their employment.

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[9] Wellstead: Travels to the City of the Caliphs.

[10] Levick, J. J.: Remarks on Sunstroke, Am. J. M. Sc. **37**: 40-55 (Jan.) 1859.

[11] Foresti, Domini Petri, Observationum et Curationum Medicinalium ac Chirurgicarum Opera Omina, Francofurti, 1634.

[12] Baglivi: The Practice of Physick Reduced to the Ancient Way of Obesrvation, Printed for Andr. Bell (et al.) London, 1704.

[13] Levick, J. J.: Heatstroke, Am. J. M. Sc. **36**: 404, 1858.

[14] Mosley, A.: Treatise on Tropical Diseases, London, 1803, p. 57.

[15] Rush, Benjamin: An Account of the Disorder Occasioned by Drinking Cold Water in Warm Weather and a Method of Curing It, ed. 2 of Medical Inquiries and Observations, Philadelphia, 1789, p. 150.

[16] Coates, B. H.: Tr. Coll. Physicians, Philadelphia, **3**: 235, 1858.

[17] Watts, J.: Remarks on the Supposed Effects of Drinking Cold Water; Illustrated by Cases Which Occurred During the Summer of 1818, M. & S. Reg., New York, 1818, p. 377.

[18] Gerhard, W. W.: Graves' System of Medicine with Additional Lectures, 1848, p. 677.

[19] Andral, G.: Reports on Medical Cases, translated by D. Spillan, Philadelphia, 1838, p. 108.

[20] Russell, J. J.: London M. Gaz. **18**: 71, 1836.

[21] Condie, D. F., in discussion on Dr. Pepper's Communication on Coup de Soleil, Tr. Coll. Phys. Philadelphia **3**: 235, 1858.

[22] Bernard, Claude: Lectures to the College of France **4**: 209, 1858.

[23] Swift, H. S.: Observations on Exhaustion from the Effects (Coup de Soliel), New York J. Med. & Collateral Sc. **13**: 45, 1854.

COMPLICATIONS AND SEQUELAE

In individuals that survive an attack of heat-stroke, it is not uncommon for symptoms to appear which indicate that, though life has been spared, some enduring mischief has been done. Immediately following the return of consciousness there may be speech disturbances, difficulty in swallowing, disorientation, hallucinations, delusions, paralysis or psychosis. In the patients who recover completely there may be severe diarrhea, apathy, loss of appetite, headaches and hyperirritability of the muscles for several days following the attack. In those once affected by heat there is frequently a subsequent hypersusceptibility. During convalescence there is an increased susceptibility to all sorts of infections Reid's[27] studies show that pneumonia occurs in 10 07 per cent of cases. In general the sequelae may be divided into those referable to the muscles or to the peripheral nervous system In referring to the frequency of infections during recovery from heat injuries, H. C Wood[28] agreed with Weir Mitchell that chronic meningitis is the most common sequela.

Recently an ex-soldier came under observation for treatment of vague gastric complaints and constipation. He was a white man, aged 47, who, fifteen years ago, had an attack of heat-stroke while in the army on duty on the Mexican border. The attack came on suddenly with a loss of consciousness, which lasted several hours. After regaining consciousness, he slowly recovered. Neurologic examination, when we first saw him, revealed absent knee-jerks, dilated pupils which did not react to light, and swaying in the Romberg position. Repeated serologic examinations for syphilis, before and after provocative arsphenamine, and examinations of the spinal fluid failed to show evidence of syphilis. The cell counts and chemical examinations of the spinal fluid were negative The patient stated that, since he had sunstroke, he had been susceptible to heat, and had had frequent headaches and visual disturbances. He had also been unable to stand with the eyes closed.

Messiter[29] observed hemiplegia in a boy of 4 years, the day following sunstroke. According to this observer, Surgeon General Maclean (of England) stated that he never saw hemiplegia follow sunstroke. Goebel[30] observed the absence of sweat and a positive Romberg as sequelae. Many different intra-ocular lesions have been described. Hotz[31] noted optic neuritis, neuroretinitis and detachment of the retina Dercum[32] reports instances of cord and peripheral nerve lesions. Space will not permit of further enumeration of the sequelae of heat injuries.

SUMMARY

1. A study of the heat injuries as they have occurred in the United States Navy since 1861 shows that there have been thirty-eight deaths and forty-three invalided from the service.

2. This study appears to indicate that the incidence of heat injuries is greater in those born and reared in the northern section of the country than it is in those from the South

3 There have been observations on heat injuries from biblical times up to the experimental era. Claude Bernard's investigations on the raising of body temperatures of birds and mammals by the application of artificial heat marks the beginning of this era.

TREATMENT OF NEUROSYPHILIS BY MALARIA

REPORT ON THE THREE YEARS' OBSERVATION OF THE FIRST ONE HUNDRED PATIENTS TREATED *

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The first and second years' observations on the results of the treatment of neurosyphilis by means of malaria were given in two previous reports[1] I now report the status of the original 100 patients treated by this method, and also call attention to other features noted in the observation of 113 patients treated subsequently.

The treatment by malaria in the Mayo Clinic has been used particularly in the resistant parenchymatous forms of neurosyphilis, including the persistent and incapacitating gastric crises, "lightning" pains in the legs, and the optic atrophy of tabes dorsalis Enthusiasm has not as yet carried us to the point of applying the treatment to patients with the acute signs of syphilis or the latent form of the disease Neither have the proved standard methods of treating neurosyphilis by the use of arsphenamine, tryparsamide, intraspinal medication, mercury or bismuth, and sodium iodide intravenously been discarded because, according to Stokes and Shaffer,[2] the majority of our patients with the early manifestations of neurosyphilis respond favorably to one or other of the modifications of these established systems. To the remaining small number of patients who do not derive satisfactory clinical or serologic results from these specific measures and to those who are admitted to my service showing the early clinical and laboratory signs of general paralysis, treatment by malaria is recommended because it has accomplished more for such patients than any previous combination of drugs or systems of therapy which I have tried.

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[24] Darrach, B Cases of Exhaustion from Heat Treated in the New York Hospital by Stimulants and Ice to the Entire Surface of the Body, Am J M Sc **37**: 55 57 (Feb) 1858, New York J Med **12**: 45, 1854

[25] Levick, J J Remarks on Sunstroke, *Am J M Sc* **36**: 404, 1848, **37**: 40 55, 1859

[26] Wilcox, W H The Nature, *Prevention and Treatment of Heat* Hyperpyrexia, Brit M J **1**· *392 397 (March 20) 1920*

[27] Reid, W D Pneumonia Not a Rare Complication of Heat Prostration, Boston M & S J **67**: 217, 1912

[28] Wood, H C Sunstroke—Chronic Meningitis, Boston M & S J **111**: 505 508, 1884

[29] Messiter, A F A Case of Insolation Accompanied by Hemiplegia, Lancet **1**: 1741, 1897

[30] Goebel, A J L· Ueber die Nachkrankheiten des Hitzschlages, Berlin, O Francke, 1905

[31] *Hotz, P C Intra Ocular Lesions Produced by Sunstroke, Am J* M Sc **78**: 105, 1879

[32] Dercum, F X Two Presenting Sunstroke Sequelae of Unusual Character, Univ M Mag, Philadelphia, **3**: 160 163, 1890 1891

* From the Section on Dermatol

* Read before the Section on
Seventy Eighth Annual Session of
Washington, D C, May 19, 1927

[1] O Leary, P A, Goeckerman, W H, and Parker, S T Treatment of Neurosyphilis by Malaria A Preliminary Report, Arch Dermat & *Syph* **13**: 301 318 (March) 1926 Treatment of Neurosyphilis by Malaria Further Observations, ibid **14**: *550 559 (Nov) 1926*

[2] Stokes, J H, and Shaffer, L W Results Secured by Standard *Methods of* Treatment in Neurosyphilis Review of Four Hundred and Five Cases, J A M A **83**: 1826 1831 (Dec 6) 1924

There has not been any conclusive evidence advanced since the first report of Wagner von Jauregg [3] to explain the mechanism by which the results of malaria treatment are accomplished Subsequently in this paper I shall compare the clinical results in the group in which the plasmodia were found in the blood stream without pyrexia with those in which the course was pyrexial.

I believe it is well to call attention again to the fact that the method is not without hazard; that the patient must remain for approximately a month in an institution organized to meet the emergencies that occasionally arise.

STATUS OF THE CASES OF GENERAL PARALYSIS PREVIOUSLY REPORTED

A review of the present status of the original 100 patients inoculated with *Plasmodium vivax*, of whom fifty-seven showed early signs of general paralysis, indicates that practically 50 per cent of the latter are now in complete remission and have been so for from eighteen months to three years, and that an additional 18 per cent are in partial remission or improved in one manner or another

My conception of what constitutes complete remission in general paralysis is not based on serologic reversals or on the disappearance of the objective signs of the disease, but is estimated on the patient's economic status as a result of the treatment If a laborer is paroled from an insane asylum and again becomes a wage-earner, or if a baggage master, after six months' enforced idleness, returns to his work and is promoted to tariff clerk, or if a physician who was forced to give up his practice now insures a satisfactory income by raising chickens, or if a lawyer following a malaria course has retained a successful office practice for the last twenty months, the results may be interpreted as remissions On the other hand, if a railroad engineer was not permitted to drive an engine but supported his family by working as an engine hostler, or if a bank cashier now satisfactorily acts in the capacity of a bookkeeper at one-half his former salary, the results are interpreted as improvement or partial remission. Many of the patients have been re-examined by the neurologists at approximately six-month intervals to determine whether there has been any regression in the neurologic objective data The results have been negligible on the whole and of no significance in defining the degree of improvement If the time arrives when the term cure rather than remission is used, the assessment of the disappearance of the neurologic signs will be warranted.

SEROLOGIC DATA

The longer the observation period, the greater the number of serologic reversals noted. Clinical improvement is not always paralleled by serologic improvement, although practically all the patients who have been benefited clinically have also shown a decrease in the intensity of the Wassermann or Kolmer reaction and a decrease in the number of lymphocytes in the spinal fluid Of the twenty-eight cases of general paralysis in which complete remission was established, the serologic reactions of the spinal fluid and blood were completely reversed to negative in nine. The reversal to normal of the reactions of the blood and spinal fluid was, however, unaccompanied by clinical betterment in a few instances In one case which was in remission for two years and in which the serologic tests had remained completely negative for eighteen months, death occurred unexpectedly during a paretic convulsion Although I do not believe that the serologic data alone warrant prognostic deductions, I have been impressed with the absence of any serologic relapse in the entire series. This is significant in view of the fact that cases of parenchymatous neurosyphilis are prone to manifest persistently positive serologic reactions, and especially a tendency toward frequent relapses in the state of the spinal fluid.

The second most significant observation in the study of the serologic evidence has been the prognostic value of the colloidal benzoin test. Particularly following treatment, I have been loath to attach much significance to one or two such reactions, believing it necessary to have at least three typical zone reports before attaching any prognostic significance to them This applies to the colloidal gold test as well as to benzoin In this group it is striking how frequently a paretic type of curve was reduced to a tabetic type and remained so if remission followed In several instances such change has preceded the clinical improvement. It is difficult to explain why this reversal is so much more pronounced in these cases than in cases of the same type of syphilis in which standard methods were followed in treatment. Marked reduction in the pleocytosis was frequently noted at the end of the fever course. On one occasion a drop from 189 to six small lymphocytes in the spinal fluid was recorded two days after the last paroxysm. Moreover, the disappearance of large lymphocytes and the occasional polymorphonuclear leukocyte from the spinal fluid was often noted at the end of the fever course.

CLINICAL RELAPSE

There have been two patients in this group who have relapsed clinically. Complete remission had lasted for twenty-four and eight months, respectively, following the malaria course, and both patients were prompted by their apparent well being to refuse further antisyphilitic treatment. Repeated attempts at reinoculation were unsuccessful following the relapse. In another case (already referred to) which was in partial remission, during eighteen months of which the tests of blood and spinal fluid had been repeatedly negative, death occurred suddenly during a paretic convulsion In a small group in which partial remission following the fever course permitted a return to the original occupation, there has been slow, almost insidious, mental deterioration. The home physicians of two of these patients compared their regression to that of senility. It is worthy of note, also, that some of the patients whom we classified in the unimproved group, who previous to the malaria course had been irritable, troublesome and of great concern to their families, have remained docile, absent-minded and ambitionless following the course of fever It is possible that this course of events is the result of the injury that syphilis has produced in the brain tissue and that treatment by malaria has held in abeyance, for the present, further degeneration

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[3] Wagner von Jauregg, Julius Ueber die Einwirkung fieberhafter Erkrankungen auf Psychosen, Jahrb f Psychiat **7**: 94 131, 1887, Ueber die Behandlung der Wien med Wchnschr **54**: 2124 2127, 1909, der Malaria auf die progressive Paralyse, Psyc **20**: 132, 1918, **20**: 251, 1919 M Ikhtemann (Contribution a la question de la priorite du Dr Rosenblum dans la nouvelle methode du traitement de la paralyse generale, *Ann d mal ven* **20**: 561 565 [Aug] 1925) claims the priority of malaria therapy for Rosenblum

REINOCULATION AND IMMUNITY

In those cases in which a satisfactory fever course was not followed by clinical improvement, reinoculation failed to produce a second course with one exception. In this case five pyrexial attacks in a second course were followed by spontaneous abortion of the malaria. In our experience with inoculation of malaria, it is not unusual to find patients who are immune to the plasmodia at the time of inoculation, and others who acquire this immunity after a few or several pyrexial bouts. This has been noted particularly in patients who give a reliable history of previous malarial fever. There have been seven cases in which it was impossible to produce chills and fever by repeated inoculations, and it was not possible to recover the plasmodia in the blood stream following inoculation with various strains of the organism that were producing successful takes in other patients. These seven patients are undoubtedly immune to the disease.

The group in which spontaneous abortion of the malaria has followed from six to fourteen chills has been particularly studied for therapeutic effects. Of these twenty-two cases the plasmodia were retained in the blood in ten, although the course was afebrile; in the remainder the organism was not recovered. In this group of aborted malaria, the best therapeutic effect followed the greatest number of chills; after six or less pyrexial attacks practically no benefit was derived from the inoculation, while those in which more than six occurred showed varying degrees of benefit. The presence of plasmodia in the blood for many days after the chills stopped spontaneously did not increase the degree of benefit. This confirms my previously recorded impression that the therapeutic benefits from malaria treatment are more dependent on the fever than the presence of the plasmodia. The fact that other fever-producing substances have been less effective therapeutically than the malaria suggests that there is still some unexplained mechanism involved. The evidence of Weichbrodt and Jahnel,[4] and more recently Schamberg and Rule,[5] has demonstrated the influence of fever in cases of experimental syphilis.

In the cases in which chills and fever spontaneously disappeared while the plasmodia were still retained in the blood stream, the use of foreign protein substances has been successful in reestablishing the bouts of fever. The intramuscular injection of whole milk, typhoid vaccine or plasmodia-free whole blood, or the intravenous injection of 2 or 3 cc. of malarial blood will invariably provoke the chills and fever within twenty-four hours. When the plasmodia were not demonstrable, this method has been of no avail.

In six cases the chills were stopped because of severe toxemia, convulsions or toxic hepatitis early in the course of the fever. In two of these, in which there were nine and eight pyrexial bouts, respectively, there was slight improvement, while in the remainder neither benefit nor appreciable ill effect occurred.

It would appear from a study of this group, and indeed of the entire series of cases, that the point which I mentioned in my first report is still tenable; namely, that the greater percentage of remissions was noted in the cases in which bouts of fever were higher and more prolonged.

THE NONPARETIC GROUP

Of the thirteen cases in which the disease was classed as asymptomatic paresis, or paresis sine paresi, benefit has been shown in six by gain in weight, increase in strength and ambition, and general improvement. Of these the reaction of the blood and spinal fluid was completely reversed to negative in four, and in the remaining two the factors in the spinal fluid became negative, except the Kolmer reaction, which remained weakly positive. It is to be noted that the patients who showed the most satisfactory clinical and serologic results received intensive antisyphilitic treatment following the malaria.

In uncomplicated cases of tabes dorsalis the results have not been better than in those treated by the routine measures, and I do not feel justified in these cases in adding the additional risk of malaria treatment. However, in those serologically negative cases of tabes, with persistent lightning pains or gastric crises, in which continued use of arsphenamine, mercury and iodides has offered little relief, such treatment has brought about more improvement than has been accomplished heretofore. Of three cases in which intensive antisyphilitic treatment had been previously given for gastric crises without material improvement, the crises are practically relieved in two, after almost three years of observation. Similarly, of two cases in which the serologic data were negative and lightning pains were persistent, almost complete relief has been accomplished in one, while in the second but slight amelioration of the pains has been noted. In these two groups inoculation was carried out late in the first year of the fever treatment, but since then inoculations of malaria have been used in three additional cases manifesting persistent pains in the legs, and in eight of those manifesting gastric crises; although the percentage of improvement is not as high, because of the larger series, the results definitely warrant the continuation of the method in these groups.

Of the seven cases of simple optic atrophy, only slight decrease in vision has occurred in three, in comparison with that noted previous to the course of fever, while in four loss of vision was progressive. In practically all the cases of this group there has been a decrease in vision toward the latter part of the fever course, which has progressed further during the administration of quinine. In only one of this group was there a suspicion that the vision decreased as a direct result of the malaria.

Of the six cases of asymptomatic neurosyphilis, definite serologic reversal has been found in one, while in the remaining five no material change has been observed as yet. There were six borderline types with taboparalysis, in all of which clinical improvement was manifested, but without any serologic changes of note. Of the original 100 patients treated, there have been six whom we have not had the opportunity of examining during the last year.

In only five of the original cases in which malaria was induced was syphilitic aortitis evident because, early in the treatment, I purposely avoided inoculation in cases of cardiovascular disease complicating neurosyphilis. However, in all of the six cases in which necropsy was performed after the malaria course, definite syphilitic aortitis was found. During the past year there has been one case with aortitis and aortic regurgitation in which it was necessary to stop the malaria because of myocardial failure, but in the remaining twelve patients inoculated progression in the cardiac symptoms was not noted. Further observation is necessary to determine whether treatment by malaria has a beneficial effect on cardiovascular syphilis.

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[4] Weichbrodt, R., and Jahnel, F.: Einfluss hoher Körpertemperaturen auf die Spirochaten und Krankheitserscheinungen der Syphilis im Tiere-experiment, Deutsche med. Wchnschr. **45:** 483-484 (May 1) 1919.

[5] Schamberg, J. F., and Rule, Anna M.: Studies of the Therapeutic Effect of *Fever in Experimental Rabbit Syphilis: the Thermal Death* Point of Spirochaeta Pallida, Arch. Dermat. & Syph. **14:** 243-255 (Sept.) 1926.

COMPLICATIONS

The complications that have developed during the course of fever have become less troublesome with continued experience. The blood urea is a valuable indication of the degree of toxemia of the inoculation malaria. I have likewise found tests of hepatic function of considerable help in estimating the severity of the postmalarial jaundice, a not uncommon complication in the more recent series. Three types of hepatic disease have been demonstrated thus far in the entire series. In three patients, syphilitic hepatitis, previously unrecognized, was aggravated by the treatment by malaria, but responded readily to mercury and iodides. Toxic hepatitis, probably of malarial origin, has been the most common type noted and has responded quite satisfactorily to the measures recommended by Wilhelm[6] for the treatment of postarsphenamine jaundice. Hepatic cirrhosis has been observed in one case. As previously mentioned, on one occasion evidence of myocardial failure developed toward the end of the course in a case in which there was aortitis and aortic regurgitation. Herpes simplex and labialis are quite common during the febrile course, and herpes ophthalmicus has resulted in serious sequelae lasting for nine months after the paroxysms. As would be expected in the treatment of general paralysis, all the mental complications from complete negativism to marked delirium may be encountered during the febrile stage. As the result of adhering to the seven-week course of quinine, there was only one recurrence of the malaria in the 213 patients treated.

MORTALITY

The mortality in cases treated by malaria, as reported by various observers, has offered a weighty weapon for the opponents of this form of treatment. Of the first 100 patients treated by this method nine are dead, a rate which compares favorably with that in any group of untreated cases of parenchymatous neurosyphilis observed for three years. Analysis of the causes of death shows that in two cases it was probably directly due to the malaria. In three others, the malaria undoubtedly acted as the predisposing factor, as the direct causes were bronchopneumonia, diphtheria and erysipelas. These infections were acquired shortly after the malaria was stopped or during the last few days of the fever course when the patients were debilitated and exhausted. In two cases death was caused by general paralytic convulsions many months after the fever course; in these I believe the malaria had no influence. In the eighth case death was due to suicide, and in the ninth to infectious meningitis a year after the malaria course. So there have been actually only five cases in which death was influenced by the malaria, a surprisingly low figure if the severity of the fever course and the debility of the patient are considered. In the second group of 113 patients treated there have been five deaths; in two of these the malaria was a predisposing cause, while accidents accounted for two more, and suicide for the fifth.

Necropsy was performed in six of the nine fatal cases. Acute splenitis and long-standing aortitis have been demonstrated in all the cases, but in none was death in any way attributable to the aortic lesion. Microscopic study of the brains has not been carried out in detail, but will afford material for a separate study. The reports of Gerstmann,[7] Sträussler and Koskinas[8] and, more recently, that of Freeman, indicate that the clinical results from treatment by malaria in general paralysis are attributable to organization in the meninges and around the blood vessels by means of deposits of fibrous tissue. Particularly significant has been the absence of *Spirochaeta pallida* in the brains studied. These reports are most encouraging, and Freeman[9] prophesies that we may eventually be warranted in talking of the cure of general paralysis following the treatment. Until more evidence has been accumulated to support this impression, I believe we must be satisfied in estimating the results in terms of arrest or remission because, even though there has been a demonstrable pathologic change in the meninges and about the blood vessels following the treatment, the fibrosis which takes place will result in a group of symptoms which may eventually be recognized as the residue of parenchymatous neurosyphilis. The use of such terms as "arrested" or "burned out" and "paroled general paralytic" will be justifiable in this group until sufficient time has elapsed and further pathologic studies have shown that the cure of neurosyphilis is possible. The value of the use of the malaria treatment early in the course of neurosyphilis is again emphasized by these pathologic studies.

Table 1.—*Results in First Twenty-Four Cases of General Paralysis (First Group Reported)* *

	1924		1925		1926	
Status of Patient	Cases	Per Cent	Cases	Per Cent	Cases	Per Cent
Remission	6	25	9	38	12	50
Improvement	9	38	9	33	2	8
No change	3	13	2	8	2	8
Death during year	2	..	1	..	1	..
Unknown	4	..	1	..	3	..
Clinical relapse	..	..	..	..	1	..

* Observation has now extended from two to three years.

POSTMALARIA TREATMENT

The postmalaria antisyphilitic treatment is an adjunct. The most pronounced remissions and serologic reversals have been observed in those cases in which the most systematic and intensive treatment was carried out after the course of malaria. However, pronounced remissions and serologic reversals have been encountered in some cases in which only the fever course was undertaken. As might be expected, in the cases in which intraspinal measures were used in conjunction with arsphenamine intravenously, mercuric succinimide intramuscularly and sodium iodide intravenously, there were more serologic reversals than in those in which only tryparsamide and bismuth were administered. There is, however, little choice between these two systems of treatment, and the selection has been dependent on the patient's age and general condition, and the clinical result of the malaria four months after the fever course.

Four different strains of *Plasmodium vivax* have been available for use, and the third strain has passed through 525 different hosts that I have record of. This has been due to the successful transfer of the strain to seven different hospitals in the Northwest. Successful inoculation was carried out in these institutions seventy-two hours after the blood was withdrawn, by the use of a solution containing 5 per cent sodium citrate and 0.2 cc. of 50 per cent dextrose solution, into which 20 cc. of defibrinated (by agitation) malarial blood was injected. The blood was transported in vacuum bottles kept at body temperature.

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[6] Wilhelm, L. F. X.: Duodenal Lavage in the Treatment of Jaundice Complicating the Treatment of Syphilis, Arch. Dermat. & Syph. **10**: 499-506 (Oct.) 1924.

[7] Gerstmann, Josef: Die Malariabehandlung der progressive Paralyse, Vienna, J. Springer, 1925.

[8] Straussler, E., and Koskinas, G.: Weitere Untersuchungen über den Einfluss der Malariabehandlung der progressiven Paralyse auf den histopathologischen Prozess, Ztschr. f. d. ges. Neurol. u. Psychiat. **97**: 176-191, 1925.

[9] Freeman, Walter: Malaria Treatment of General Paralysis: Histopathologic Observations in Fifteen Cases, J. A. M. A. **88**: 1064-1068 (April 2) 1927.

There has not been any material change in the virulence of the organisms by passage through these numerous hosts. On two occasions, after the malaria in three or four cases in succession had aborted, it seemed as though the organism was losing its potency; but when it again developed its former virulence in subsequent inoculations, it was inferred that the organism was not at fault but rather that the resistance of the patient to the plasmodium was sufficiently high to prevent the chills and fever.

SUMMARY

In a series of 100 patients with various manifestations of neurosyphilis who were inoculated with *Plasmodium vivax* between June, 1924, and February, 1926, there were fifty-seven cases of general paralysis, of which twenty-eight (49 per cent) are still in remission as measured by the economic status of the patients. Of the thirteen patients presenting the syndrome of paresis sine paresi or asymptomatic general paralysis, six have been materially improved, and the factors in the blood and spinal fluid have been reversed to normal in four. The evidence still supports the assertion that in the serologically negative cases of tabes with persistent lightning pains or gastric crises, malaria inoculation is beneficial if the general condition of the patient will permit him to tolerate it. Likewise, in the group with optic atrophy benefit has accrued: in four of the nine cases in which this treatment was carried out, the loss of vision has been apparently arrested.

Table 2.—*Results of More Than One Year's Treatment in Fifty-Seven Cases of General Paralysis (Second Group Reported)*

Status of Patient	1925		1926	
	Cases	Per Cent	Cases	Per Cent
Remission	22	39	28	49
Improvement	9	16	10	18
No change	15	26	6	11
Death during year	7	..	1	..
Unknown	4	..	4	..
Clinical relapse	..	..	2	..

The method of treatment is not without risk, as evidenced by a mortality of 5 per cent, only those cases in which the malaria was a factor being considered. For parenchymatous neurosyphilis in debilitated and senile patients, tryparsamide is still to be preferred.

The clinical results have been more pronounced when the fever treatment was instituted early in the course of the general paralysis before much degeneration had taken place, but striking results have been noted in cases in which the clinical signs of general paralysis were present four years before the inoculation. The duration of the syphilis has not been a factor in the end-results.

The recent reports of the study of the brain in cases of general paralysis in which death followed a malaria course indicate that healing and deposition of fibrous tissue have actually taken place in the meninges and around the blood vessels. Such data suggest the possibility of some day speaking of the cure of general paralysis, but experience with this disease must be supplemented by many more years of observation of the pathologic as well as the clinical results before such insinuations are warranted.

The longer the periods of observation, the greater the number of cases in which the condition of the spinal fluid and blood is completely reversed to normal. It must be borne in mind, however, that the serologic changes are not always paralleled by clinical improvement. This is confirmed by the observation of cases in complete remission in which no serologic changes are manifested; on the other hand, a case with complete change in all the factors in the spinal fluid and the blood may be suddenly terminated by death from general paralysis. In my experience the changes in the colloidal benzoin and colloidal gold tests are of more prognostic significance following treatment by malaria than they have been in other forms of treating neurosyphilis. The change from a first to a second zone type of curve and eventually to a flat or negative curve has, on numerous occasions, preceded clinical improvement.

Experience with the fever treatment of Wagner von Jauregg during the last three years in 213 cases in my service, and in sixty-five additional cases in a neighboring hospital with which we cooperated, has definitely proved that it is the most valuable method of treatment suggested for paretic parenchymatous neurosyphilis, notwithstanding the fact that it is attended with definite risk. I have demonstrated to my own satisfaction that antisyphilitic treatment is an essential adjunct after the course of malaria.

ABSTRACT OF DISCUSSION

Dr. Harold N. Cole, Cleveland: We have now been using this malarial therapy for something like two years and have treated about 200 cases. Although we wish to be conservative, we are enthusiastic about the results of the treatment. There are practically no patients who have not shown some benefit, many of them being of the type that does not respond to other types of treatment. We are now using this therapeutic measure in cerebrospinal syphilis, in cases that have been resistant to other methods. The fact that a public accountant who has not been able to add up a column of figures and who, within six months after this treatment, is able to take up his former occupation would certainly make one think there is something in the treatment. Many of the patients now show negative laboratory results. This may not occur shortly after the course, perhaps not for a year, but it is surprising then to find that everything is negative in the way of blood and spinal fluid tests. I should like to subscribe to Dr. O'Leary's remarks regarding the addition of foreign protein to stir up the activity of the fever after it has sort of died out. This can be done with great success. We have used this treatment in the control of cases of tabes dorsalis with crises; and as a result I have recently seen two severe cases in which there has not been trouble with these crises for a year. We have not seen much result in the cases of optic atrophy and naturally would not expect to see any when the damage has already been done. We have not attempted to give any second courses of malarial therapy as yet. If this work is done by some one who has followed quite a lot of these cases I think it is not a dangerous procedure. If he has not had much experience there will be many disagreeable things. If the blood pressure comes down to 90 it is time to do something. In all these cases we use caffeine sodiobenzoate. If the patient does not respond well to this we stop the treatment. Usually this will bring the pressure up again and we shall be able to finish the treatment. Like Dr. O'Leary, our best results have been obtained in patients who have had from fourteen to eighteen chills. We have found that blood urea estimation is of value, but the blood pressure gives a better indication. The urea is rarely high without other signs; for instance, diarrhea and severe exhaustion and persistent vomiting. Incident to such experiences we have had good results with sodium bicarbonate. During the chill we take the temperature every twenty minutes to get the top. Otherwise this will be missed in many instances. There has been but one death in the last 100 cases and we think this is due to the fact that we have had more experience with the treatment. I think that in working with cerebrospinal syphilis and other types the prognosis is good, or not so bad as in some of the older risks.

Dr. Udo J. Wile, Ann Arbor, Mich.: We have used the same form of treatment in a much smaller number of cases. In the group studied, about forty cases, we have not yet seen any untoward symptoms. No patient has as yet died. In the group treated we must have another type of general paralysis than that seen elsewhere, or else the cases were of a much later type than those seen and treated in other clinics. We have seen remissions occur in exactly 10 per cent of the cases. In only three instances have we seen the patient improved to the extent that he has been able to resume his occupation. In those three cases, as well as in the others, we have not been able to see any change in the spinal fluid reaction. In analyzing this result I think it compares favorably with the remission under no treatment at all. With regard to finding spirochetes in the brain, the striking piece of work Dr. O'Leary mentioned is remarkable. In this connection, Foerster of Greifswald found in puncture of the brain live spirochetes in two cases treated with malaria, so the results are apparently not uniform. We did find one thing that was very convincing, regarding malaria and spirochetes. A young woman with multiple chancres was given the malarial therapy solely to find out whether there was any effect on the spirochete outside the spinal system. Within a short time all the spirochetes disappeared from those lesions, and the lesions involuted much more rapidly than they otherwise would have. I am greatly pleased with the results Dr. O'Leary and Dr. Cole have reported, for I have been on the point of giving up the treatment because I could not see that my results were in accord with others. I will now continue the work and see whether later results will not be more in accord with theirs.

Dr. Watson W. Eldridge, Jr., Washington, D. C.: St. Elizabeth's Hospital in this city, where my work is carried out, was the first place in this country to undertake the malarial treatment of general paralysis. I inoculated the first patient in December, 1922, and we have treated approximately 275 cases since. It is apparent, therefore, that some of our cases were treated more than five years ago. A recent survey of our work showed that remissions had occurred in 61 per cent of the cases that had been treated for two years or longer. The percentage of complete remissions is not so high, only about 40 or less. I think we have been very conservative in our survey and I believe that an institution such as St. Elizabeth's is apt to be more conservative than the average clinic, in considering general paralysis. The serum determinations in 85 per cent of the cases have shown marked improvement and in a surprisingly large number have returned to normal. The improvement in the serum does not commence until about a year after the treatment and from then on becomes progressively more rapid, so that the greater the elapsed time since treatment, the greater the improvement. Does Dr. O'Leary transmit the malaria from one general paralytic patient to another? If not, how does he transmit it and keep his malaria active? I should also like to know whether, in the group in which the malaria failed to take, reinoculations were successful. I have had several inoculation failures, principally among colored males. In these cases inoculations repeated many times failed to take.

Dr. J. E. Moore, Baltimore: We have been using this treatment for three years and our results closely parallel those reported by the other speakers. There are many points of interest that cannot be brought out in a discussion of a few minutes, but there are one or two I should like to stress. Regarding incomplete remission, we have come to feel that this is a result poorer than no remission at all, or death. We have had several instances in which the patient has made a complete physical recovery from a rapidly advancing general paralysis, but has remained stationary or become worse mentally. Two or three such patients have shown no signs of dying in two or three years, and from the standpoint of the patient and his family this result is much more tragic than death. The possibility of such an outcome should be explained to the patient's family before treatment is undertaken. In the second place, we feel that in an ambulatory clinic malaria treatment is more or less a last resort from the economic standpoint. We have other methods of treatment available which enable us to get a fair percentage of complete remissions, especially in early general paralysis. In a small group of early general paralytic patients treated with tryparsamide we have obtained 57 per cent of adequate remissions. We have not been able to duplicate this result with malaria, chiefly because we have utilized this form of treatment for patients with more advanced general paralysis. It is difficult to ask a working man to give up the time necessary for treatment with malaria, when we can get good results by other means. I would emphasize the point regarding the serologic reactions. In most patients the spinal fluid does not begin to improve for at least a year after the inoculation. This seems to raise the question as to whether high temperatures are entirely responsible for the beneficial effects of the treatment. As has been said, many patients become serologically negative after one, two or more years. Was reinocculation done to produce a second attack, and if so, at what interval after the first? Will Dr. O'Leary tell us his experience with malarial treatment in optic atrophy and patients with eighth nerve deafness?

Dr. Paul A. O'Leary, Rochester, Minn.: In reading the summary, I failed to call attention to the fact that as a rule our patients with uncomplicated tabes dorsalis have not done well on malarial therapy, and we have not felt it worth the additional risk to place them on fever treatment. The patients with gastric crises and severe lightning pains have had a very decided lessening in the frequency of the pains and crises in practically 40 per cent in both groups. We have treated fifteen cases of primary optic atrophy, three of which have been materially benefited, in that they have shown no progression in the optic atrophy since the malarial course. I have had no experience with patients who had eighth nerve deafness. I think Dr. Eldridge answered Dr. Wile's point, in that it must be emphasized again and again that the longer the observation periods are carried out the more striking the clinical results become. Wagner von Jauregg called attention to this in his original communications, and it has been confirmed in our experience. Our patients have not been hospitalized general paralytics. We have, at Rochester, a state hospital for the insane, which is also using this method, and with its cooperation we have been able to maintain *Plasmodium vivax*. The second strain of the organism used in my service has now passed through 525 hosts that I know of. This has been accomplished by transferring it to various syphilologists in the Northwest. We have transported the malarial blood to Portland, Ore., and to Los Angeles, and successfully produced malaria. Inoculations have been made eighty hours after withdrawal of the blood from the host. We have reinoculated as many as six times those patients who have not developed chills and fever and have not been successful in obtaining a "take." We have also reinoculated patients who did not show improvement following the first fever course and have not been able to produce a second course of chills and fever. We have reinoculated as long as fourteen months after the first fever course but were not able to produce malaria. I have also noted that a patient with the agitated type of general paralysis may become a dull, morose individual following a malaria course and is certainly less care to his family than before the fever course. This kind of result is interpreted as a slight improvement, and I believe that the results of this type are not a contraindication to the method.

The Mind as Well as the Body Must Be Engaged.—Even bodily development is most successfuly achieved when the deeper forces are at work. The doctors have long recognized that healthful exercise is not simply a matter of muscular contraction. There must be an object, there must be interest, there must be exhilaration: to produce the best results the mind as well as the body must be engaged.—Lee: Play in Education, pp. 45-46.

FRACTURE OF THE XIPHOID PROCESS CAUSING CLONIC SPASM OF THE DIAPHRAGM *

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To observe clonic diaphragmatic spasm is in itself sufficiently surprising, but to find as its probable underlying cause a fracture of the xiphoid process is still more so. Comparatively few instances of spasm of the diaphragm are found recorded, and, so far as can be determined, fracture of the xiphoid process is unique.

REPORT OF CASE

H. S., a married Russian-Jewish tailor, aged 48, was admitted, Oct. 10, 1921, with complaints which led to the diagnosis of duodenal ulcer. Roentgen-ray studies confirmed the impression and, October 13, under ether anesthesia, a transsection of the pyloric antrum with posterior gastro-enterostomy (Billroth II) was performed. The ulcer was situated on the anterior and superior surfaces of the duodenum, involving the cap along the lesser curvature. Because of the extensive surrounding induration and cicatrization, it was not removed. An appendix, noted by the pathologist to show "obliterative appendicitis," was excised, and the abdominal wound was closed in layers with chromic catgut, a small rubber tissue drain being left in the region of the duodenal stump.

The recovery from ether was stormy, with vomiting and raising of mucus, which accumulated in the pharynx. Between the third and sixth days after operation there were signs of infarction or pneumonia at the right base, and these observations were confirmed by a roentgenogram of the chest. Recovery from this complication was prompt and the patient was discharged on the nineteenth day after operation, without complaints. The wound was noted to be solidly healed.

Two years later the patient came to the outdoor department in answer to a follow-up letter. In spite of failure to adhere to a gastric five-meal regimen, he had been well until the previous two months, during which time he had had mild epigastric pain one-half hour after meals. No note was made as to whether this pain was similar to his previous ulcer distress.

On examination a moderately large hernia of the wound was found, and in the upper portion of it was felt an indurated mass thought to be a deep stitch surrounded by fibrous tissue. The patient was advised to enter the hospital for repair of the hernia.

This he failed to do, and was next seen in July, 1926, three years later. Because of new symptoms which had arisen, he was now quite willing to undergo a second operation. For two years, at intervals of from two weeks to a month, he had had attacks of sharp pain, starting in the midline between the xiphoid process and the umbilicus, and "shooting" to right and left along the costal margins toward the flanks. Each attack lasted over a period of from fifteen to thirty minutes. During this time he would lie down and compress his abdomen with his hands, partially relieving the distress. So far as he could tell, the attacks had no relation to his meals or to any other event, coming on at any time of the day but never waking him up at night.

Two weeks before admission the pain became more persistent, and for the first time was accompanied by a "shaking" of the abdomen. This "shaking" he involuntarily demonstrated to us from time to time.

Without obvious cause and without preparatory inspiration or other warning, and even while in the midst of a sentence, he would be suddenly interrupted by a series of from five to eight quick, moderately violent generalized protrusions of the abdomen. These spasms occurred within the time of one or two seconds, at a much faster rate than the heart's beat. I cannot be sure as to the relation to respiration, but I am under the impression that there was a cessation during this interval. At any rate there was no glottic spasm and no sound whatever.

There were several large and small defects in the linea alba between the umbilicus and xiphoid process through which the abdominal contents protruded on straining or coughing. In the upper portion of the wide scar could be felt a nodule which was the shape of the xiphoid, and which moved inward and upward as if hinged on the sternum. Once considered, this could be nothing other than a fractured ensiform cartilage, connected to the sternum only by fibrous tissue.

The patient had himself noted, and we were able repeatedly to observe, that manipulation of the wound in general would often bring on the clonic spasm. But still more striking was the almost unfailing production of the contraction by pushing the xiphoid inward and upward, by "pushing the button," so to speak.

Fluoroscopic studies of the diaphragm were, much to my chagrin, not made, and the patient, being in excellent general health, was operated on the morning after admission. At this time, the fractured xiphoid process was removed and the hernia repaired. In removing the xiphoid I attempted to demonstrate a direct anatomic connection with the diaphragm. Muscle fibers were not observed to be attached to the posterior surface of the process, but the diaphragm, seen and felt from within the peritoneal cavity, curved down, as usual, to the level of the upper portion of the ensiform cartilage to insert along the costal margin.

Coughing, retching and vomiting occurred as after the first operation, but there was no pulmonary complication, and he was discharged on the twentieth day after operation with a firmly healed wound in which there was no suggestion of a fascial defect. He had had no recurrence of spasm and no noteworthy pain. Gastro-intestinal roentgen-ray studies before discharge showed a gastro-enterostomy, functioning well. There was no evidence of a gastric or gastrojejunal ulcer. The duodenum was not visualized.

Since his discharge five months ago, I have seen this patient repeatedly. He occasionally takes a little sodium bicarbonate after eating to help raise gas from his stomach, but he has no more than slight discomfort and does not have the spasm of the diaphragm.

COMMENT

The fracturing of the xiphoid process in this case I am inclined to ascribe to the zeal of a junior assistant, who was probably holding a retractor at the original operation. The probability of this mode of fracture is at least strong, and serves as a warning against undue retraction against the ensiform cartilage. This fracture is, of course, most likely to occur when the fundus of the stomach or the region of the dome of the diaphragm is exposed through an upper midline incision.

Most of the reports of diaphragmatic spasm are found in Italian medical journals, though accounts in the English, French and German languages are to be singled out. The veterinarians have long been familiar with the disorder (first account in 1770).[1] They have described one case in an ox,[2] one case in a greyhound [3] and many instances in horses.[4]

The spasm may apparently be caused by irritation of the respiratory or phrenic center, by stimulation of either phrenic nerve anywhere along its course, or by direct stimulation of the muscle of the diaphragm.

A definite etiology has not been found for most of the cases reported, many being classified as "hysterical."[5] The probability that psychic stimulation may occur is strengthened by consideration of an itinerant who for years went the rounds of the German clinics exhibiting his ability to distort the lower thorax and abdomen [6] This he did by controlled action of the thoracic, diaphragmatic and abdominal muscles.

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[1] Garsault, cited by Nunn (Footnote 4).

[2] Bach, cited by Nunn.

[3] Gamgee, cited by Nunn.

[4] Nunn, J. L.: Spasm of the Diaphragm, Vet. Record 15: 434-437 (Jan. 10) 1903. Taylor, H.: A Case of Spasm of the Diaphragm, Vet. Record 15: 464, 1903.

[5] Bersani, I.: Tic clonico del diaframma, Policlinico (sez. prat.)

Cases have definitely followed encephalitis and influenza,[7] occurring with and without glottic spasm. In encephalitis and influenza, as well as in tics due to hyperexcitability (tetany, toxic nephritis [8]), the stimulus to diaphragmatic spasm may be central, in the phrenic nerve itself, or peripheral. In the so-called epidemic transitory diaphragmatic spasm,[9] a direct infection of the diaphragmatic muscle is probable.

A most striking example of phrenic nerve irritation was seen in a girl, aged 16, in whom a diaphragmatic spasm, without closure of the glottis, was initiated with each inspiration, the expanding left lung compressing the phrenic nerve against a cervical rib [10] The rib was removed, with complete cessation of the spasm. In our own hospital records is an account of a man, aged 63, who had recurring attacks of hiccups (diaphragmatic, thoracic [?] and glottic spasm)[11] over a period of years, following a severe brachial plexus injury of the left side, with extensive deep fibrosis of the cervical tissues.

In several instances one or the other phrenic nerve has been involved in an abscess, tuberculoma [12] or tumor of the mediastinum, while in others the spasm has been unilateral and synchronous with the heart beat,[13] suggesting direct irritation of the left phrenic nerve or the pericardial portion of the left diaphragm. In these cases the transmission of an action current from the cardiac muscle to the left phrenic nerve has been suggested.[14]

But direct irritation of the diaphragm is comparatively infrequent as a cause of diaphragmatic spasm. Examples of irritation by a gastric ulcer [15] (irritating the peritoneum over, or perforating into, the diaphragm), of rupture of the stomach (in horses), and of hemorrhage into the muscle of the diaphragm [16] (noted in a postmortem examination of a horse who had had diaphragmatic spasm) are on record Spasm caused by the irritation of a fractured xiphoid process is, in all likelihood, similarly due to muscle, or nerve ending, stimulation.

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[6] Von Klein Graudenz, C U Hysterischer Spasmus des Zwerchfells, Verhandl d Deutsch Gesellsch Naturf u Arzte, part 2, **82**: 172 174, 1910

[7] Grothusen Ueber Singultus nach Grippe, Med Klin **21**: 1126 (July 24) 1925

[8] Perussia, F Spasmo unilaterale intercorrente del diaframma, Radiol med **2**: 76 78 1915 (Refers to Eppinger)

[9] Payne, G C, and Armstrong Charles Epidemic Transient Diaphragmatic Spasm a *Disease of Unknown Etiology Epidemic in Virginia*, J A M A **81**: 746 748 (Sept 1) 1923

[10] Hunt, G B Clonic Spasm of the Diaphragm Associated with a Cervical Rib, Brit M J **2**: 314, 1909

[11] Glottic spasm may or may not occur with diaphragmatic spasm It is probably protective and entirely reflex, preventing the too rapid inrush of air, mucus and foreign bodies into the lungs

[12] Bianchi, Giovani Un case di spasmo clonico unilaterale del diaframma Gazz d osp **43**: 595 597, 1922 (Refers to Gatte and Broca, and to Sbrocchi)

[13] *Dematheis, F [illegible] crampo clonico ritmico del diaframma, Gior. d* osp Maria Vittoria [illegible] 304 1915

[14] Perussia (footnote 8) It is interesting to note that Risien Russell (An Experimental Investigation of the Cervical and Thoracic Nerve Roots in Relation to the Subject of Wry Neck, Brain **20**: 45, 1897) showed, in monkeys that stimulation of the fourth anterior cervical root caused contraction of the portion of the diaphragm near the central tendon on the side stimulated, while stimulation of the sixth root contracted the portion near the periphery, and of the fifth root, the portion between the two on the same side Stimulation of the vagus nerve had no direct effect on the diaphragm Schlaepfer (The Phrenic as the Nerve of Motor Innervation of the Diaphragm, Bull Johns Hopkins Hosp **34**: 195 197 [June] 1923), furthermore, demonstrated, both in laboratory animals and in man, that the phrenic nerve is the sole motor nerve of the diaphragm, and that its stimulation does not cause any of the accessory muscles of respiration, such as those of the thorax, to contract

[15] Lardennois, G, and Braine, J Phreno spasme chronique lie a un ulcus gastrique juxta cardiaque, etc, Bull et mem Soc de chir de Paris **49**: 937 941 1923

[16] Brun cited by Nunn (footnote 4)

LENS PROTEIN AND ITS FRACTIONS

PREPARATION, AND IMMUNOLOGIC AND CHEMICAL PROPERTIES *

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Our purpose is to report our experiments in the preparation of serologically pure fractional antigens of the crystalline lens, and our observations on the chemical and immunologic properties of these fractions.

This study was undertaken as the necessary forerunner of a proposed study of the possible rôle lens protein may play in lenticular disease. Before reporting our observations, the problem would be made somewhat clearer by a brief historical review.

In 1894, Morner [1] isolated from beef lens two crystalline fractions, which he called "lens alpha" and "lens beta," and an insoluble substance which he termed "albuminoid." In 1910 and again in 1922, Jess [2] reported his studies on the quantitative relationship of the alpha and beta crystallin at different ages, and in the normal and pathologic lens, noting the fact that in old age and in cataractous lenses the amount of the alpha fraction was decreased. In 1903, Uhlenhuth [3] reported his classic discovery concerning the immunologic properties of lens protein as a whole. Uhlenhuth's observation was that the protein of the lens differed immunologically from other protein bodies; that it was organ specific, and that it greatly lacked species specificity. The question arose as to whether the alpha and beta crystallins differed in their immunologic reactions, and this question has been studied, especially by Hektoen and Schulhof,[4] in the John McCormick Institute for Infectious Diseases.

Hektoen showed that the alpha and beta crystallins of the bovine lens were precipitogenically distinct. Also in practically all cases he found that in each of his preparations of alpha and beta the antigens were not serologically pure, owing to a small amount of the fellow crystallin. In only one instance did he procure serologically pure antialpha and antibeta serums.

As early as 1904 the observations of Uhlenhuth concerning the possibility of a relationship between lens protein and lenticular disease excited interest among clinicians and investigators In 1902, A. E Davis began working on this problem, publishing his first paper [5] on this subject in 1922. As a result of Davis' clinical observations, he is convinced that immunization with a preparation of the bovine lens has a definite effect on retarding the development of lenticular opacities. The same subject was investigated experimentally by Paul Romer. Romer's investigations extended from 1905 to 1914, and, while inconclusive, excited much controversy. In brief, Römer proceeded on the theory that the senile cataract was the result of some cytotoxin acting on the lens. His investigations [6] covered a wide field: (1) the effect of lens protein on the blood of various animals; (2) the action of lipoid and various poisons on the lens; (3) the permeability of the lens capsule to toxins; (4) a serologic study of patients with cataract, and (5) the effect produced by specific organotherapy with lens protein.

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* From the Wilmer Ophthalmological Institute, Johns Hopkins Hospital

* Read before the Section on Ophthalmology at the Seventy Eighth Annual Session of the American Medical Association, Washington, D C, May 18, 1927

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[2] Jess, A Die moderne Eiweisschemie im Dienste der Starforschung, Arch f Ophth **109**: 463, 1922

[3] Uhlenhuth, P Zur Lehre von der Unterscheidung verschiedener Eiweissarten mit Hilfe spezifischer Sera, Festschrift zum sechsigsten Geburtstage von Robert Koch, Jena 1903, p 49

[4] Hektoen, Ludvig, and Schulhof, Kamil Lens Precipitins, J Infect Dis **34**: 433 (May) 1924 Hektoen, Ludvig The Specific Precipitin Reaction of the Normal and Cataractous Lens, J Infect Dis **31**. 72 (July) 1922

[5] Davis, A L Serum and Lens Antigen Extract Treatment for the Prevention and Cure of Cataract, Tr Am Ophth Soc **22**: 112, 1922

Experiments by Lazarew [7] and other investigators failed to show a relationship between lens protein and the formation of cataract, but there are certain points in Römer's work that cannot be ignored. Römer and Gebb were able to demonstrate, in the blood serum of a young diabetic patient with cataracts, antibodies specific for lens protein. They further showed that the lens capsules were permeable to cytotoxic substances, and that the cells of the lens were capable of uniting with substances for which they had specific receptors. Although Römer could not substantiate his hypothesis by experimental research, he was apparently convinced that the formation of cataract was due to a reaction taking place between the blood serum of the patient and the protein of the lens. General as is this statement, it is not to be lightly dismissed, for the brilliant experiments of Guyer and Smith [8] have recently reopened this entire question. Guyer and Smith, although not primarily interested in the immunologic reactions of lens protein, took advantage of the fact that in embryonic life the lens is surrounded by the tunica vasculosa and is therefore more subject to influences from blood serum than would occur later in life. These observers immunized fowls to rabbit lens protein, producing anti-rabbit lens serum. This serum was then injected back into pregnant rabbits at intervals of two or three days over a period of two weeks. There was a high mortality among these rabbits and the embryos; but among the sixty-one young surviving, nine showed ocular defects centered chiefly around the crystalline lens; imperfect development, or liquefaction of the lens; partial or complete cataract; or other ocular lesions which, in the opinion of these authors, were due primarily to the imperfect development of the lens.

STATEMENT OF THE PROBLEM

In view of the earlier observations of Uhlenhuth and Römer, the later observations of Davis, and the more recent startling experiments of Guyer and Smith, it seemed opportune to rework this entire field from the immunologic standpoint, in the hope that some observations might eventuate which would offer some rational clinical application. The enormous complexity of the problem has been briefly outlined by one of us.

Before any experimental or clinical studies were possible, it was necessary to obtain a reliable, stable preparation of the whole lens, and immunologically pure preparations of the lens fractions; and to determine if possible, the relationship, or serologic entity, of these fractions. This, accordingly, has been made the first problem in the proposed study.

EXPERIMENTAL WORK

In our first experiments we prepared the fractions of the crystalline lens in the manner used by Hektoen and Schulhof, and outlined by their predecessors. These preparations were made as follows: Bovine eyes were obtained from the slaughter house. They were opened by a section of the cornea, an incision was made in the capsule of the lens, and the lens was expelled. A number of these lenses, usually from twenty-four to thirty-six, in their wet, fresh state, were ground with sand until finally a smooth paste was obtained. Distilled water was added up to ten times the weight of the lenses. This was put in the shaking machine for two hours, and then allowed to stand over night; the next day, the mixture was given a slight swirl, and allowed to settle, and the supernatant turbid fluid was decanted. This was repeated until the mixture was free from sand. Sufficient sodium chloride was then added to make an isotonic solution (0.85 per cent), tricresol was added, and the mixture was allowed to stand at 37 C. for twenty-four hours. Aerobic and anaerobic cultures were then taken and if they were sterile, the mixture could be used in such concentration as was desired.

Such a preparation is turbid unless further filtered and is practically useless for precipitin tests. In order that the lens protein might be easily accessible at all times in more accurately quantitative form, a dehydrated mixture of the lens was prepared. This was done as follows: Pig or beef lenses, obtained as before, were crushed in their fresh state by being pressed between glass plates. The plates were pulled apart and the crushed lens material placed in a vacuum desiccator over calcium chloride with a measured vacuum equal to 700 millimeters of mercury. Rabbits' lenses, somewhat smaller, could be placed directly into the desiccator without danger of putrefaction; but with the larger lenses it was first necessary to crush them. When the dehydration was complete, the dried lenses were ground in a mortar; the resulting fine powder was returned to the desiccator for several days, and then stored in glass stoppered bottles. Such preparations as these, when a weighed sample is kept at from 90 to 100 C. for twenty-four hours, contain from 7 to 15 per cent moisture. Preparations of the whole lens could be made from this dry lens whenever desired. The strength of the various antigens was determined by dehydration to find out the total solid content (including salts), and by quantitative nitrogen determination to ascertain the protein content.

PREPARATION OF FRACTIONAL ANTIGENS

Alpha Antigens.—An aqueous extract of the whole lens is centrifugalized at a high speed for fifteen minutes, and the supernatant fluid decanted. The sediment represents the "albuminoid" fraction of Hektoen and Schulhof. Tenth-normal acetic acid is added to the supernatant filtered fluid until the maximum precipitate is obtained. The precipitate thus thrown down by the acetic acid is the alpha crystallin, while the supernatant fluid is chiefly the beta crystallin. The alpha precipitate is then dissolved by adding tenth-normal ammonium hydroxide and is again precipitated by the further addition of tenth-normal acetic acid. This procedure is repeated several times.

Beta Antigens.—The supernatant fluid, after the primary precipitation with tenth-normal acetic acid, is chiefly beta crystallins. This fluid is dialyzed in collodion sacks until the p_H of the surrounding tap water is reached. Tenth-normal acetic acid is again added to the solution, the remaining alpha precipitated, and the supernatant beta fraction again dialyzed. This procedure is repeated several times. These antigens were then properly injected into rabbits, and immune serums were thus obtained to a number of different preparations of this whole antigen and fractional antigens. These serums were examined against the various antigens in the precipitin test.

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[6] Römer, P.: Die Pathogenese der Cataracta senilis vom *Standpunkt* der Serumforschung, parts 1 and 2, Arch. f. Ophth. **60**: 175, 1905; Stoffwechsel der Linse und Giftwirkungen auf desselbe, Ber. d. Ophth. Gesellsch. **33**: 39, 1906; Die Pathogenese der Cataracta senilis vom Standpunkt der Serumforschung, parts 3, 4, 5 and 6, Arch. f. Augenh. supp. **56**: 150, 1907; Specifische Therapie des beginnenden Altersstares, Ber. d. Ophth. Gesellsch. **35**: 195, 1908. Römer, P., and Gebb, H.: Untersuchungen über das biologische Verhalten des *Blutserums zum Linsen*eiweiss bei Kataract, Arch. f. Augenh. **77**: 316, 1914.

[7] Lazarew, E.: Origin of Senile Cataract (review), Arch. Ophth. **41**: 660, 1912.

[8] Guyer, M. F., and Smith, E. A.: Studies on Cytolysins: II. Transmission of Induced Eye Defects, J. Exper. Zool. **31**: 171, 1920. Guyer, M. F.: The Production and Transmission of Certain Eye Defects, Tr. Internat. Cong. Ophth., Washington, *1922*, p. *669*. Davis, F. A.: Hereditary Eye Defects in Rabbits Experimentally Induced, Tr. Ophth. Soc. U. K. **45**: 555.

TECHNIC OF THE PRECIPITIN TEST

The antigens are diluted in physiologic sodium chloride solution to the different desired dilutions, usually from 1:100 to 1:100,000. The serums are usually undiluted. Occasionally, for exact determinations, they are diluted 1:2, 1:4, 1:8, 1:16 and 1:32. Tubes 8 mm. in diameter are used, and 0.15 cc. of antigen is added to the tube. The serum, of greater specific gravity, is allowed to run down the side of the tube slowly until it layers itself cleanly beneath the antigen. Fifteen-hundredths cubic centimenter of the serum is used. The tubes are kept at room temperature for one hour, when they are read as either positive, doubtful or negative, by the ring test. They are then shaken, kept one hour at room temperature, and read on a four plus scale, visible precipitins being used as the standard. They are kept overnight in the icebox, and again in the morning read on the same scale. Only a negative reaction was recorded, when the last icebox reading was clear.

All serums were kept in the icebox, either in a sterile condition or preserved by chloroform. All antigens were sterilized by passage through Berkefeld filters; their sterility was proved by culture, and they were then kept under sterile conditions in the icebox without preservatives.

All animals were bled before immunization was commenced, the serums that proved negative to lens antigens were used thereafter as negative controls.

RESULTS OBTAINED WITH HEKTOEN-SCHULHOF PREPARATION

Our results obtained with the antiserums produced by the injection into rabbits of the antigens perpared by the method outlined by Hektoen and Schulhof confirm almost exactly the results reported by these authors in their second report. While there was every reason to believe that the alpha and beta antigens are precipitogenically distinct, nevertheless a certain amount of cross precipitation was obtained.

Table 1.—*Whole Lens Antiserum with Whole Lens and Fractional Antigens*

Antiserum	Antigens	Results
Whole Beef Lens (34.1)	Whole Beef Lens	Positive 1:100,000
Whole Beef (34.1)	Alpha A. 1	Positive 1:100,000
Whole Beef (34.1)	Beta B. 2	Positive 1:12,000

Rabbits immunized to whole lens reacted with antigens of whole lens in dilutions of more than 1:100,000. The same whole lens antiserum reacted with alpha antigens in the same concentration. It reacted with the beta antigens in a concentration of 1:12,000. The results are shown in table 1.

Alpha antiserum reacted with specific alpha antigen in dilutions up to 1:100,000 (on the basis of total solids). These alpha antiserums, however, reacted definitely with beta antigens; in much the same manner they reacted with alpha antigens. Table 2 shows the reaction obtained with these typical antialpha serums.

Beta immune serums obtained by beta antigens prepared by this method show a precipitin reaction with beta antigen as high as 1:16,000 (on the basis of total solids) and do not show any reaction to any alpha antigens even after twenty-four hours' incubation. Table 3 shows the reaction of the typical beta antiserum.

Table 2.—*Reactions of Alpha Antiserum*

Serum Alpha (6364.2)	Antigens														
	Alpha Crystallin (A 16.11)							Beta Crystallin (B 12.0)							
	2,000	4,000	8,000	16,000	30,000	60,000	100,000	2,000	4,000	8,000	16,000	30,000	60,000	100,000	NaCl
Undiluted	4	4	2	2	2	1	1	2	2	2	1	1	1	1	—
1:2	4	4	3	2	2	1	1	2	2	2	1	1	1	1	—
1:4	4	4	3	2	2	1	1	1	1	1	±	±	—	—	—
1:8	3	4	3	2	1	1	1	±	±	—	—	±	—	—	—
1:16	2	2	2	2	1	1	1	±	—	—	—	—	—	—	—
1:32	1	1	1	1	1	1	1	—	—	—	—	—	—	—	—
Normal* serum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Serum of rabbit used to produce antiserum, taken before immunization.

From the results of these titrations it appears that all antigens are immunologically active, and that the beta antigen, probably, is serologically pure.

A large number of alpha antigens were prepared according to the method outlined by Hektoen and Schulhof, and repeatedly purified by precipitation. Yet it was impossible to produce by this method any alpha serum which did not react definitely with beta antigens. An alpha antiserum with the greatest relative purity was then taken and absorbed with an excess of beta antigens over a period of twenty-hours. There resulted the complete removal of all antibodies to beta antigens, while the precipitin reaction of this absorbed serum to the alpha antigens was unimpaired. This indicated that the impurities lay in the alpha antigens, for had the alpha antiserum-beta antigen reaction been due to any alpha impurity in the beta antigen, the absorption of alpha serum with the beta antigens would have resulted in the impairment of the alpha antigen-alpha antiserum reaction, which was not the case.

Table 3.—*Reactions of Beta Antiserum*

Serum Beta (65.3)	Antigens										
	Alpha Crystallin (A 16.11)					Beta Crystallin (B 12.0)					
	2,000	4,000	8,000	16,000	32,000	2,000	4,000	8,000	16,000	32,000	NaCl
Undiluted	—	—	—	—	—	4	4	2	2	1	—
1:2	—	—	—	—	—	4	4	2	2	2	—
1:4	—	—	—	—	—	3	3	2	2	2	—
1:8	—	—	—	—	—	2	2	2	—	—	—
1:16	—	—	—	—	—	±	—	—	—	—	—
1:32	—	—	—	—	—	—	—	—	—	—	—
Normal* serum	—	—	—	—	—	—	—	—	—	—	—

* Serum of rabbit used to produce antiserum, taken before immunization.

It was quite evident, therefore, that in order to prepare reliable, serologically pure alpha and beta antigens, further investigation was necessary. The Hektoen-Schulhof method yielded antigens which definitely indicated that precipitin distinction existed between these two antigens; yet an alpha antigen could not be prepared by this method in a serologically pure condition.

IDENTITY OF THE ALBUMINOID FRACTION

In the first part of the investigation, an emulsion was made of the "albuminoid" fraction and injected into rabbits. The antiserum thus obtained was immunologically indistinguishable from a routinely prepared alpha antiserum reacting strongly with alpha antigen, and less strongly with beta antigen.

Later in the investigations, the "albuminoid" residuum, after the removal of the alpha and beta fraction, was purified as follows and an antiserum obtained: Desiccated lens was used. A 3 per cent suspension in tenth-normal ammonium hydroxide and 0.5 per cent tricresol was shaken over night in the shaking machine with glass beads. The next morning it was placed in the refrigerator, where it remained for a day. The sediment was then collected by centrifugalization and washed with water for a period of seven days, until the supernatant fluid no longer contained protein by the ninhydrin test. The sediment, 30 cc. by volume, was suspended in 120 cc. of tenth-normal ammonium hydroxide, shaken five hours, and then placed in the refrigerator over night. It was centrifugalized fifteen minutes at high speed. The supernatant fluid was dialyzed in collodion over night. The dialyzate was again centrifugalized and the sediment discarded. Sodium chloride was added to make a concentration of 0.85 per cent and tricresol to 0.5 per cent. This was injected intravenously into rabbit A7B1 in four doses, the first one 5 cc. and the other three 10 cc., twice a week for two weeks. Three days after the last injection the rabbit was bled and serum A7B1 obtained. This antiserum A7B1 reacted with alpha antigens up to 1 : 50,000 and did not give any reaction with beta antigens. In fact, it was by this devious route that we prepared our first serologically pure alpha antiserum.

For these reasons it appears to us that the "albuminoid" fraction is not a distinct serologic entity, but is definitely alpha crystallin, which is either enmeshed in the lens fibers and is so prevented from going into solution, or is an insoluble form of alpha antigen. We have not been able by any of numerous means to prepare a true solution of the "albuminoid" fraction.

In the light of these experiments, it appears impossible to expect serologically pure preparation of the lens fractions if the methods used by Hektoen and Schulhof are exactly followed. Further, the whole lens mixture prepared by the Hektoen-Schulhof method is difficult to use in the precipitin reaction, owing to the difficulty of passing it through a Berkefeld filter to obtain a water clear solution. Accordingly, we have tried a number of other methods of preparing whole lens protein and its fractions. For a long time our efforts were fruitless as regards the fractional antigens, the interaction between the alpha immune serum and the beta antigen persisting. We have finally succeeded, however, in obtaining preparations of alpha and beta antigens which appear to be serologically pure and which we have been able to reproduce with definite regularity. Our final methods of preparing whole lens protein and the alpha and beta fractions are as follows:

PREPARATION OF WHOLE LENS PROTEIN

A method of the preparation of the lens protein has been devised by Cecil, and has been adopted by the H. K. Mulford Company, which markets a 2 per cent solution of lens protein. This method of extraction is as follows: Fresh lens is treated with sodium chloride solution containing 0.5 per cent of sodium bicarbonate, in the proportion of 20 cc. to one lens. The lenses are crushed and as thorough an emulsion as possible is obtained; then 0.5 per cent phenol (carbolic acid) is added. This emulsion is kept in a refrigerator for forty-eight hours, and is then strained through gauze, and put through a Sharpless centrifuge twice. It is filtered twice through three thicknesses of coarse filter paper; then once through a Mandler filter with 5 pounds pressure and again with 11 pounds pressure. Finally it is passed twice through a Berkefeld filter, with 15 pounds pressure. There results a stable colloidal solution which has a distinct blue tinge.

In our earlier investigations, it was noticed that a weak solution of ammonium hydroxide was a better solvent for lens protein than was water. Accordingly, we devised the following method of preparing whole lens protein: Fresh lenses were treated with hundredth-normal ammonium hydroxide, shaken with glass beads in the shaking machine for about ten hours, and then placed in the refrigerator for forty-eight hours or more. Tricresol, 0.5 per cent, is added before the mixture is placed in the refrigerator. The material is then centrifugalized at high speed for one hour; the precipitate is discarded, and the supernatant fluid is filtered through coarse filter paper, three thicknesses, and then through Berkefeld filters for sterility. Aerobic and anaerobic cultures are made. If the cultures are negative, the resulting solution can then be used. The end-product is a clear lemon yellow fluid, the protein content of which is usually 1.5 per cent or less.

Table 4.—*Relative Protein Content, Percentage, and the Total Solid Content, in Various Antigens* *

Antigen	Preparation	Total Nitrogen	Nonprotein Nitrogen	Protein Nitrogen	Protein Percentage	Dehydration Total Solids, per Cent
20.1	Cecil preparation from fresh lenses...........	424	21.6	402.4	2.39	3.02
20.2	Hundredth normal ammonium hydroxide fresh lens.............	316	24.6	291.4	1.73	1.99
20.3	Cecil preparation from dried lens.............	356	21.4	331.6	1.98	2.16
20.4	Hundredth normal ammonium hydroxide from dried lens.......	205	24.8	180.2	1.07	2.25
20.5	Hundredth normal ammonium hydroxide isotonic salt from dried lens.............	243	44.5	198.5	1.17	1.09
27.0	Ammonium hydroxide preparation from fresh lens prepared with alumina cream...	349	25.5	323.5	1.92	2.15
	Mulford's commercial preparation..........	350	21.0	329.0	1.95	1.48

* Analyses made by Dr. W. F. Perlzwig, through the courtesy of Dr. Longcope, in the chemical laboratory of the medical clinic of the Johns Hopkins Hospital.

More recently we have used the following method of preparing whole lens protein:

The whole lens protein is treated with hundredth-normal ammonium hydroxide and an emulsion is made, which is put in a shaking machine over night. "Alumina cream" [9] is then added to 10 per cent of the total bulk. The mixture is allowed to stand over night. The supernatant fluid is then decanted. The sediment is removed by centrifugalization. The supernatant fluid is passed through a filter once, then through a Berkefeld B filter at 8 pounds pressure. There results a solution which appears to be comparable to the solution prepared by further filtration. This has the advantage of being extremely easy to prepare. We have prepared numerous specimens of these antigens by these different methods. Tests fail to show the presence of any aluminum salts. ✓

To determine the relative values of these methods of preparation, we have extracted both the dry and the fresh lens with these methods, keeping all other steps in the procedure identically the same throughout. The total nitrogen and nonprotein nitrogen of these antigens were then determined, and the protein percentage calculated. The total solids, which includes not only the protein but all salts, was also determined by dehydration. Table 4 shows the results of these analyses.

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[9] Alumina cream is freshly precipitated aluminum hydroxide made by precipitating aluminum chloride by sodium hydroxide and washed until free of excess alkali.

In obtaining the data recorded in table 4, the fresh lens preparation was made from twenty beef lenses with 400 cc. of solvent. The dried lens preparation was made for 12 Gm. of dried lens, which is roughly equivalent to twenty fresh lenses and 400 cc. of solvent. The percentage figures are reached by using the nitrogen factor for alpha and beta crystallin given by Hammersten, which is 5.94. The total solids are measured by dehydration. This dehydration process, of course, measures definitely all organic and inorganic salts as well as other constituents which are not included in protein percentage.

During the filtration of these lens antigens, it was noticed that the solution filtered more and more slowly, and that the end-product became more and more water clear as filtration proceeded. Accordingly, the different antigens were passed through new filters and the amount of the solution filtered before clogging took place was measured. It was found that 100 cc. of the antigen prepared by the Cecil method (with sodium chloride) passed through the filter before clogging occurred, but that all other solutions clogged the filter after 15 or 25 cc. had passed through. It also appeared that the absence of sodium chloride from the solution played an important rôle in the clogging of the filters, which seems quite natural when one remembers that sodium chloride inhibits to a certain degree the normal swelling of protein in the presence of alkali.

After the determination of the physical properties of these various preparations of antigens, we examined next their immunologic properties. Rabbits were accordingly immunized to a Cecil preparation of the antigens, supplied by the H. K. Mulford Company, and to an ammonium hydroxide extraction of the lens prepared by us; the exact protein percentages of both of these solutions were first determined, and the doses so arranged that the same amount of protein was received by the two series of rabbits. The only difference noticed between the antigens during the administration was that the ammonium hydroxide antigen had a somewhat corrosive action on the ear veins, while the Mulford preparation was much more readily tolerated by the rabbits. The rabbits were bled after the fifth injection, and both showed precipitins. At the end of the sixth injection, both showed strongly positive serums with homologous antigens. They were then bled from the heart, and the serums carefully examined in the precipitin test against the various antigens. A difference in the precipitin titers of the different serums was not noted. The serums were tested against the fractional antigens, and the results were most surprising. The reactions between the antiserum from ammonium hydroxide preparation and the alpha antigens was very much stronger than was the reaction between the antiserum produced by the Mulford preparation and the same antigens. On the other hand, the reactions between the antiserum produced by the Mulford preparation and the beta antigen was very much stronger than was the reaction between the antiserum produced by the ammonium hydroxide preparation and the beta antigen. From this observation, it seems quite definite that the ammonium hydroxide preparations contain a greater quantity of alpha crystallin (or act as a better alpha antigen) than does the Cecil preparation, whereas the Cecil preparation contains a greater quantity of beta crystallin (or acts as a better beta antigen) than does the ammonium hydroxide preparation. The results of this comparison are shown in table 5.

Table 5.—*Comparison of the Cecil and Ammonium Hydroxide Extractions*

		Antigens																											
		Mulford Lens Extract							A. B. × 17.15							Alpha Crystallin A 16.11							Beta Crystallin B 17.13						
Immune Serums	NaCl	1,000	2,000	4,000	8,000	16,000	32,000	64,000	1,000	2,000	1,000	8,000	16,000	32,000	61,000	1,000	2,000	4,000	8,000	16,000	32,000	64,000	1,000	2,000	4,000	8,000	16,000	32,000	61,000
N 1 B 4.3 Mulford antigen-undil....	—	4	4	4	4	3	3	1	4	4	4	3	3	2	1	1	1	1	1	—	—	—	4	4	4	4	3	2	1
1:2..............	—	3	3	3	3	2	2	1	3	3	3	3	3	2	1	±	±	1	1	—	—	—	2	3	3	3	3	2	1
1:4..............	—	2	3	3	3	3	2	1	—	1	1	1	1	1	—	±	±	±	±	—	—	—	1	1	1	1	1	1	1
1:8	—	—	±	1	1	1	1	1	—	—	1	1	1	1	—	—	—	—	—	—	—	—	1	1	1	1	1	1	1
1:16	—	—	—	—	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1:32..............	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
U 3 A 3.3 A. B. × 17.15 whole lens antigen-undil...	—	4	4	3	3	2	1	1	4	4	4	4	3	2	1	4	4	3	2	1	±	—	3	3	3	2	1	1	—
1:2..............	—	3	3	3	3	2	1	1	3	3	3	3	3	2	1	3	4	3	2	1	1	—	2	2	2	1	1	1	—
1:4..............	—	2	2	2	2	1	1	1	2	2	2	2	2	2	1	±	±	1	1	1	1	—	±	±	±	±	—	—	—
1:8..............	—	—	—	1	1	1	1	1	1	1	2	2	2	1	—	±	±	1	1	1	—	—	±	±	—	—	—	—	—
1:16..............	—	—	—	—	—	1	1	—	—	—	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1:32..............	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Normal serum pooled 3.........	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

THE PREPARATION OF SEROLOGICALLY PURE FRACTIONAL ANTIGENS

Attempts were made to separate the alpha and beta fractions by other methods, such as precipitation with ammonium sulphate, but without success. We returned finally to a modification of the Hektoen-Schulhof method, which in the main is the Wooldridge method for the separation of nucleoproteins. The modification we employed was the precipitation of the alpha and beta fractions at their iso-electric points. The iso-electric point of a protein is the point at which it is neither acid nor alkaline, and this is the point of minimum solubility. The iso-electric point will vary for different colloids and proteins. The iso-electric points of the alpha and beta fractions were determined as follows:

An ammonium hydroxide extraction of lens protein was prepared in the manner before described, and filtered to clarity; 20 cc. of this solution was then placed in each of a number of beakers. To each beaker was added an increasing number of drops of tenth-normal acetic acid. As the number of drops increased in the different beakers an increasing turbidity was noted, until at the addition of about six drops the maximum precipitate appeared to occur. The p_H of each beaker was determined by using the La Motte 3-B outfit. (In making the determination it was necessary to fill the shells completely with the clear supernatant fluid.)

It was found that the maximum precipitate occurred at a p_H of from 5.2 to 4.8. Alpha antigens were now prepared by precipitations of whole lens protein at various hydrogen ion concentrations from p_H 6.0 to p_H 5.0. Alpha antiserums were prepared by injection into rabbits of those various alpha antigens. It was found that the maximum alpha antiserum-beta antigen reaction of these serums occurred in the alpha antiserums produced by alpha precipitated at p_H 6.0, but the reaction was still present in the alpha antiserum produced by alpha precipitated at p_H 5.0. The repetition of this experiment, and the examination of the antiserums produced by the injection of an alpha antigen precipitated at different p_H levels, finally showed that the iso-electric point of beta crystallin lay in the region of p_H 6.0 and of alpha crystallin from p_H 5.0 to p_H 4.8. Apparently the addition of tenth-normal acetic acid to the alkaline preparation of whole lens protein results in the precipitation of a small amount of beta in the neighborhood of p_H 6.0. As the p_H approaches 5.0, the precipitation of the alpha fraction becomes marked, while the precipitated beta tends to go back into solution. Further, after a p_H of 4.8 is reached, buffer action on the part of the precipitated alpha becomes evident, and over night the p_H will rise from 4.8 to 5.8. For this reason, when p_H 4.8 is first reached, a definite excess of acid can be added without further changing the p_H, and this step holds the p_H constant at 4.8. When acid is added beyond this point, however, carrying the p_H on the acid side beyond p_H 4.8, the turbidity of the solution grows less, the p_H now having passed beyond the iso-electric point of the alpha crystalline, which begins to go back into solution. We have availed ourselves of these observations to separate the alpha and beta fractions in a serologically pure state.

In practice, the method[10] is as follows:

The whole lens preparation is prepared as before described. Twenty cubic centimeters is placed in a number of tubes, and tenth-normal acetic acid is added until the maximum precipitate is obtained. The p_H of this tube is 4.8. Acid is further added until there is the faintest increase in turbidity of the supernatant fluid, indicating that the alpha is going back in solution. Thus the point is determined at which the maximum amount of acid possible may be added without redissolving alpha. The p_H is still 4.8 The quantity of acid to be added to the main bulk of whole lens protein is now calculated and added, the p_H again being checked. This should still be p_H 4.8. The mixture is allowed to stand over night. The precipitate is removed by centrifugalization. The supernatant fluid is practically pure beta crystallin, and the precipitate is alpha crystallin.

Further Purification of Alpha.—The precipitate is now dissolved in water, and tenth-normal ammonium hydroxide is added to a p_H 7.4. This is now dialyzed twenty-four hours to remove the excess ammonium hydroxide and is passed through a Berkefeld filter. Tenth-normal acetic acid is now added in the manner described before to a p_H 4.8; the alpha is again precipitated and removed by centrifugalization. This step is repeated until the supernatant fluid from centrifugalization gives a negative reaction to the ninhydrin test. Two more precipitations are now done. The final solution is sterilized by filtration. It is now cultured aerobically and anaerobically for seven days. After negative cultures, it is tested for serologic purity by precipitin tests against pure alpha and beta antiserum and by injection into rabbits, which should produce an alpha antiserum which does not react with beta antigen.

Further Purification of Beta Antigen.—The supernatant fluid from the first acetic acid precipitation is dialyzed in a collodion bag until the p_H of the surrounding tap water is reached. Twenty cubic centimeter samples are now placed in a series of tubes. Tenth-normal acetic acid (to precipitate any remaining alpha) is now added to these tubes in varying amounts to determine the maximum amount of acid which can be added without re-solution of any precipitate that may occur. This is again at about p_H 4.8. The total amount of acid necessary to add to the original bulk is calculated and added. The precipitate is removed by centrifugalization and discarded. Again the supernatant fluid is dialyzed, and this step is repeated until the addition of acid does not give a precipitate below p_H 5.6. The antigen is now tested against a pure alpha and beta antiserum. There should be no reaction to alpha and a good reaction to beta antiserum. The beta antigen thus produced contains only about 0.1 per cent protein by test. Accordingly, to facilitate immunization of animals, we have concentrated it as follows: The beta solution is saturated with sodium chloride and tenth-normal acetic acid is added to p_H 5.0. A heavy precipitate occurs (sodium chloride action on beta antigen—the sharpness of the iso-electric points being dependent on the absence of electrolytes). This precipitate is collected by centrifugalization at high speed for fifteen minutes, and the bulk of the precipitate measured. For each cubic centimeter of precipitate, 1 cc. of tenth-normal ammonium hydroxide is added, and as little water as is possible to manipulate. A slightly turbid solution results. This turbidity can be removed by centrifugalization; the excess of sodium chloride is removed by dialyzation, and the end-product sterilized by Berkefeld filtration. The resulting solution is beta crystallin in about 3 per cent concentration.

Table 6 illustrates the serologic purity of the fractional antigens thus produced.

Table 6.—*Serologic Purity of Fractional Antigens*

Antiserums	Antigen A 21.5	B 21
A 7 B 3 1 (antigen A 21.5)..........	Positive 100,000	Negative
B 56.2 (B 15.11 antigen)............	Negative	Positive 50,000

ORGAN SPECIFICITY AND SPECIES SPECIFICITY

The fractional antigens produced by this method show the same properties of organ specificity and lack of species specificity first pointed out by Uhlenhuth as a property of whole lens protein.

The alpha and beta antiserums produced by the injection in rabbits of beef alpha and beta crystallins react respectively with the alpha and beta antigens prepared from swine lenses as well as with beef alpha and beta crystallins. This organ specificity of the alpha and beta crystallins is shown in table 7.

The antiserums produced by the injection in rabbits of beef alpha and beta crystallins do not react with other bovine tissue antigens. They have been tested both against beef blood serum antigen and against beef aqueous antigen, and do not react. An antiserum produced by the injection of beef aqueous into a rabbit, on the other hand, reacts to both beef aqueous and beef serum, but not to any lens antigens, illustrating again the immunologic isolation in the normal eye of lens protein even from such neighboring fluids as the aqueous. Table 8 shows these reactions, illustrating the lack of species specificity of the crystalline lens, and of its fractions, alpha and beta crystallin.

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[10] The methods of preparation of iso-electric points, mentioned below, are for bovine lenses. Experimentation with the lenses of other species has shown that the iso-electric points of alpha and beta crystallins may vary in different species, but in other animals differential precipitation of the alpha and beta crystallins at their iso-electric points is possible.

Table 7.—*Organ Specificity of Alpha and Beta Antigens*

	Antigens			
Serums	Pig A 13 0	Beef A 16 11	Pig B	Beef B 15 11
Serum A 69 2 from pig antigen A 13 0	Positive 32,000	Positive 32,000	Negative	Negative
Serum A 72 3 from beef antigen A 16 11	Positive 32,000	Positive 64,000	Negative	Negative
Serum B 70 9 from pig antigen B 18 1	Negative	Negative	Positive 64,000	Positive 64,000
Serum B 56 2 from beef antigen B 15 11	Negative	Negative	Positive 64,000	Positive 64,000

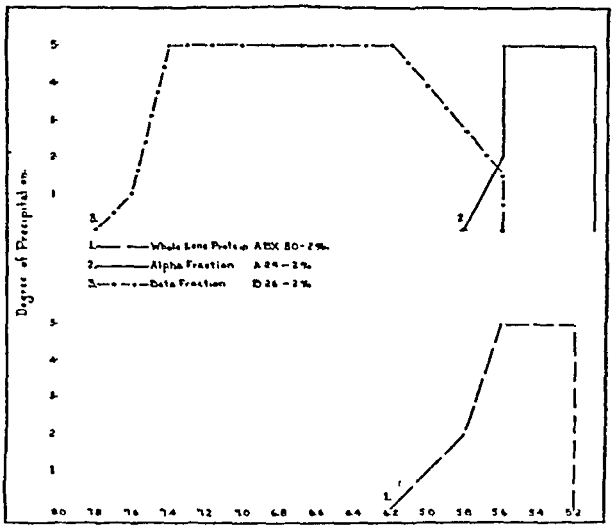
COMMENT

By the methods of preparing pure fractional antigens here outlined, pure fractional antigens have been obtained whose antiserums do not show cross precipitation when tested against heterologous fractional antigens which are relatively fresh. The alpha and beta antigens are, however, not equally stable. The alpha antigens have been preserved for many months, and the first pure antigens prepared are still stable and do not show evidence of precipitation. This is not the case with the pure beta antigen. Freshly prepared beta antigen produces a specific antiserum, which reacts strongly with the beta antigen and does not react with other antigens. Beta antigen, freshly prepared, shows no tendency to nonspecific precipitin reactions with heterologous antiserums, and does not give a precipitation with a hetero-immune serum even after twenty-four hours' incubation. After a period of a few weeks, however, the beta antigen becomes unstable, even when kept in the refrigerator. There develops a definite tendency to spontaneous precipitation as the antigen grows older. Likewise, after some weeks, the beta antigens begin to show nonspecific cross precipitation with other hetero-immune serums. However, if alpha antigen is mixed with the beta antigen, the beta antigen loses this tendency to spontaneous precipitation, the alpha fraction having apparently a protective colloid action against the spontaneous precipitation of the beta. The accompanying chart shows graphically this protective colloid action by alpha on the precipitation of beta. The pure isolated beta antigen has a definite tendency to precipitate spontaneously between p_H 7.8 and p_H 6.2. This is shown on the first curve of the upper figure, while the second curve of the upper figure shows the range of acid precipitation possible in the pure alpha crystallin. The lower curve shows the range of possible acid precipitation of whole lens protein, the mixture of alpha and beta protein, precipitation being possible only between p_H 6.2 and p_H 5.2. In a mixture of alpha and beta crystallins, the beta protein in the mixture does not show any tendency to spontaneous precipitation in the higher ranges from p_H 7.8 to p_H 6.2, where it does tend to precipitate when in a pure condition. Apparently the presence of the alpha antigen has an inhibitory effect on spontaneous precipitation on beta antigen between p_H 7.8 and p_H 6.2.

Table 8—*Species Specificity of Crystalline Lens*

	Antigens				
Antiserums	Alpha Crystallin (A 16 11)	Beta Crystallin (B 17.11)	Whole Lens (ABX 17.7)	Beef Aqueous (4)	Beef Serum (1)
Alpha (72 3)	Positive 30,000	Negative	Positive 30,000	Negative	Negative
Beta (74 3)	Negative	Positive 30,000	Positive 30,000	Negative	Negative
Whole lens 8990 4 .	Positive 30,000	Positive 30,000	Positive 30,000	Negative	Negative
Beef aqueous humor (52 4) .	Negative	Negative	Negative	Positive 1:32	Positive 1:10,000

This tendency of beta crystallin to precipitate spontaneously is of great interest, as it offers quite a plausible hypothesis to explain the etiology of senile cataracts. Beta crystallin does not tend to precipitate from whole lens protein, the alpha fraction having, as before noted, an apparent protective colloid action that prevents the precipitation of beta. Jess has noted that in old age and in cataractous lenses the quantity of alpha in the lens protein is greatly decreased. It seems plausible to assume that these facts may in some way be related to the causation of senile cataracts. The gradual decrease in the alpha fraction allows the beta fraction to become greater and relatively more pure, and further gradually removes a protective colloid action against spontaneous precipitation of beta crystallin. Thus a condition may be approached where beta crystallin predominates in the lens protein and the protective action of the alpha fraction, which normally prevents spontaneous precipitation of beta, is removed. Spontaneous precipitation of beta in vivo and in situ may now occur, with the resultant clouding of the lens. This is an especially interesting hypothesis when it is considered that the range of spontaneous precipitation of the beta fraction lies in the normal hydrogen ion concentration of the body fluids. Such a theory is, however, totally without experimental proof in vivo.



Range of precipitation of whole lens protein and alpha and beta crystallins at different hydrogen ion concentrations.

Lens protein contains both globulin and albumin. The question whether the albumin and globulin bear any relationship to the alpha and beta fractions naturally arises. No such relationship can be demonstrated. Globulin is present in ten times the amount by volume than is the albumin. Both the globulin and the albumin fractions react with antialpha and antibeta serums, indicating the mutual presence of alpha and beta fractions in both the globulin and the albumin.

At present a statement cannot be advanced as to the relative merits of the Cecil commercial preparation and the ammonium hydroxide preparation we have devised. The chemical analyses show little difference in the nitrogen content, and immunologic tests in vitro indicate that the Cecil preparation contains a greater relative quantity of beta crystallin, while the ammonium hydroxide contains a relatively greater amount of alpha fraction. Should further study show that anything is to be gained by a relatively greater quantity of either the alpha or beta fraction, one or the other methods of preparation of whole lens may then become preferable. A study of clinical hypersensitivity to lens protein is now in progress. The few observations already at hand indicate that a marked difference may exist in the skin reactions produced by these two preparations.

SUMMARY

A study of the preparation, and immunologic and chemical properties of whole lens protein, and its alpha and beta crystallin fractions, has been undertaken. New methods for the preparation of whole lens protein have been devised. These new preparations contain a larger relative amount of alpha crystallin and less beta crystallin than did the older preparations. It was found impossible to produce serologically pure fractional antigens by the methods outlined by other investigators. A method of preparing serologically pure alpha and beta antigens was then devised by which such pure antigens can be prepared with definite regularity. The basic point in this method is the utilization of the iso-electric points of the alpha and beta crystallins.

Study of these serologically pure fractional antigens shows that they are organ specific and not species specific, thus supporting Uhlenhuth's observations.

The pure beta crystallin fraction shows a tendency to spontaneous precipitation within the normal hydrogen ion range of body fluids. The presence of alpha crystallin prevents this spontaneous precipitation. This observation, coupled with the earlier observations of other investigators, makes possible an attractive hypothesis concerning the etiology of senile cataract.

ABSTRACT OF DISCUSSION

Dr. Zenas H. Ellis, New York The study of the nutrition of the crystalline lens is most difficult. But it is only through such thorough-going research as Dr Woods has done in studying the chemistry and immunology of the constituents of lens protein that we can hope to make progress in endeavoring to find the cause of the formation of lens opacities. Dr. Woods has given us a positive method of obtaining pure alpha and beta lens antigen and has shown that, like lens protein itself, they are organ specific Jess has shown that during the growth of the lens all through life there is a slow shifting of the quantitative proportions of the albumins. The two crystallines (water soluble) are the main proteins, albumin being present only in traces. In old age there is an increase in albuminoids. Jess also has shown that in cataractous lenses the quantitative proportions of the soluble albumin and albuminoids are greatly changed and that the lenses decrease in weight because of an enormous loss of fluid and a considerable loss of albumin. The loss of albumin is at the expense of the crystallines, while albuminoids showed a definite increase. This leads one to believe that the crystallines change over into albuminoids. Dr A. E. Davis at the International Congress of Ophthalmology in 1922 and at the American Ophthalmological Society in 1924 reported that he had arrived at a cataract preventive or cure without resort to surgery. Ninety-three per cent of the cataracts had responded favorably to his treatment. Working with the preparation introduced by Dr. A. E. Davis, we could not confirm his results, for no absorption of lens opacities was shown in any of our cases.

Dr. S. R. Gifford, Omaha: This section owes Dr. Woods and Dr. Burkey a great deal of thanks for the unbelievable amount of work they have done in perfecting a method of preparing a pure lens antigen that can be preserved Some work that we have been doing this year with another lens preparation compared to some work that we did a few years ago shows the immense importance of having a pure and standard lens antigen containing whole lens protein. One thing that ought to be borne in mind is that none of the work which has been done on the lens protein as a diagnostic agent or as a therapeutic agent has, to my mind, received sufficient scientific proof so that it can be accepted I was glad to hear Dr. Ellis report a series of cases in which he had tried out the lens treatment and recorded accurate results It must be remembered that this is all on an experimental basis and not to be treated otherwise until we know more about it.

Dr A E Davis, New York: The lens antigen that I first brought out was called by Dr Woods the Cecil antigen and the Mulford antigen, whereas the Cecil antigen and the Mulford antigen are exactly the same; in fact, it was my own invention At first I used this remedy in a suspension, but, of course, that could not go to the general public Dr Cecil and I then devised this method of making it sterile, and by the way, being a sodium chloride preparation, it went through the filter very well indeed In making the comparison of the original antigen and the ammonium hydroxide antigen, the protein element in the original antigen is considerably higher than in the other, and I think for that reason, having that additional amount of protein, it would be more efficacious in the treatment The original antigen also is much less irritating locally to the patient than the newer preparation This is another point that I am sorry Dr Woods did not carry out in his paper Of course it takes time for all these experiments The point I refer to is the precipitin titer. In my original cases, for the first fifteen cases that I reported, we bled all these patients and took this precipitin test However, the tests were not very satisfactory. I am in favor of using the whole protein of the crystalline lens, that is, not using the fractional elements of the protein separately Dr Woods has shown that the alpha fraction holds the beta fraction in solution so it does not precipitate; and this is a great advantage indeed With Dr Ellis, I am of the opinion that if we make further studies of the nutrition of the lens, if we can find that specific affinity which they claim that the receptors of the individual lens cells have for nutrition (and Dr Wheeler and Dr Kirby have started on that line), then, if in addition we can get an antigen that is stable and sterile, we shall come nearer to solving the problems of the nonoperative treatment of cataract While my own results are not quite so good, after being under observation for longer periods of time when the first reports were made, they show from 70 to 80 per cent of the cases arrested completely, and about 50 per cent of the cases show improvement in vision.

Dr I S Tassman, Philadelphia: It was my original purpose to speak of the work of some of the earlier investigations into this subject, by way of stressing the importance of the changes taking place in the soluble crystalline of the lens, during cataract formation Dr Ellis has gone over the later work of Jess About 1910 the cystein reaction was described, by which the proteins, in the presence of certain cystein groups, produced a red color by the addition of a few drops of a 4 per cent solution of sodium nitroprusside and ammonia. W Reiss, in 1911, and a little later Jess, demonstrated the regular occurrence of this reaction in normal human and animal lenses Jess then showed that the reaction was produced by the alpha and to a greater extent by the beta crystallins, and that the reaction was negative in senile cataract, the degree depending on the extent of the cataract formation Then when it was found that there was a decrease of the total proteins of the lens in cataract, solely through the two crystallins, it appeared that the absence of this cystein reaction in senile cataract depended on the loss of the cystein-containing fractions. There is no doubt about the presence of the reaction as demonstrated by the positive red coloring produced in normal lens with the addition of the 4 per cent sodium nitroprusside and ammonia, and its total absence in a hypermature senile cataract. The importance attached to the changes in the alpha and beta crystallin taking place during senile cataract appears to be supported by the work of Dr. Woods, when he showed how the beta crystallin, in particular, was affected in his experiments.

Dr. Alan C. Woods, Baltimore: I shall first answer Dr. Davis' comments. The Mulford Company was the source of our information that Cecil was the deviser of the present antigen made by them, and it was for that reason that I referred to the "Cecil" antigen. It was not until Dr. Davis called my attention to it by letter that I was aware he had suggested this method to Dr. Cecil. As Dr. Davis stated, the Mulford antigen has a slightly higher protein content. The protein content of the ammonium hydroxide preparation can be increased by decreasing the amount of solvent used. We used this proportion arbitrarily because it gave us roughly a preparation similar to the Mulford preparation. The objection to the Mulford preparation is that it seems to give false positives in skin hypersensitivity tests, whereas my own antigen gave negative reactions. In these patients skin tests with beef serum and beef aqueous were positive. It looks as though by skin tests which are more sensitive than the precipitin test in vitro there may be some species specific impurity in the Mulford antigen. For that reason, I have been using the ammonium hydroxide antigen. What Dr. Davis said about the irritability is quite true, but in this paper I specifically omitted saying anything about the use of lens protein in clinical patients. I referred simply to the ear vein in a rabbit. In the skin of a patient there seems to be no difference in the amount of irritation; in fact, the ammonium hydroxide may be less irritating. Both of them are irritating, however. Dr. Davis spoke of the absence of precipitins in man. I would not expect precipitins in the blood serum of a 150-pound man from an injection of a few cubic centimeters of 1 per cent protein. I should not expect to get antibody reaction in a man unless much larger doses were used. As far as the antibody reaction produced by the fractions goes, there is a radical difference. The antibody reaction to alpha crystallin is rapid and prompt, and to beta crystallin is slow and uncertain. If (and I say advisedly *if*) the immunologic energies of lens protein have anything to do with cataract, I should be much more suspicious of the beta fraction than of the alpha fraction, because the alpha fraction seems a bit more nonspecies specific than the beta. Dr. Tassman spoke of the balance of these two proteins in the lens, which is one of the most interesting things we have encountered. The interactions of alpha and beta are remarkable. For instance, alpha is precipitated by acid, beta is not. But if an excess of electrolytes is added to the solution of beta, it will be precipitated by acid. Alpha from whole lens protein can be precipitated by the use of sodium chloride, and thus very little beta can be precipitated. But if sodium chloride is added to a pure alpha solution, alpha is not precipitated. I do not know why. Very slight differences in the calcium concentration of the solutions cause most remarkable precipitations. If calcium is added slightly over the normal physiologic limits, changes occur in the turbidity of the solution. I do not know why. We have at least been able, now that we have pure antiserums, to test out these precipitates, to find out what we are dealing with, and to have a method of identifying our precipitates.

Loose Bodies in Joints.—The knee joint cavity is divided into five distinct but intercommunicating compartments—three in front and two behind. These are the suprapatellar pouch and the anteromesial, the anterolateral, the posteromesial and the posterolateral compartments. Each pouch allows of separate exploration through a relatively small capsular incision. A loose body originating in one of the anterior compartments finds a free passage from one to another, but does not ordinarily make its way into a posterior compartment, as the connecting path is somewhat circuitous. Free communication between the two posterior pouches is, for practical purposes, blocked by a midline synovial partition connected with the posterior crucial ligament.—Platt, Harry, *Brit. M. J.*, May 28, 1927.

THE RELIEF OF ITCHING BY EPINEPHRINE IN CERTAIN CASES OF INFANTILE ECZEMA[*]

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Every one who sees infants with eczema appreciates the extreme suffering they frequently manifest. The infant himself may not only rest and sleep very little but his constant fretting and crying deprive the other members of the family of their rest, so that it is not uncommon to have a mother state that she has not slept for weeks or even months, implying, of course, that she has had no uninterrupted restful sleep during that time.

One morning an infant in the hospital ward suffering from a severe form of eczema freed himself from restraint and manifested every evidence of extreme discomfort; he was given epinephrine intramuscularly; in two minutes he was quiet and in three minutes was asleep and slept for more than an hour. During the rest of the morning he seemed comfortable; the best he had been in the hospital, one of the attendants remarked.

Since this experience I have usually seen the subjects in the hospital with eczema when they manifested discomfort, and if the discomfort seemed sufficiently severe and to be due to the eczema epinephrine has been administered subcutaneously or intramuscularly and the observation continued at least fifteen minutes.

During the past two years seven such infants have received something more than twenty injections and relief was manifested from about three fourths of them. Several times also the nurses on night duty found that relief was obtained and sleep followed the use of epinephrine. The relief is usually striking, is noted promptly, often within two minutes, just as it is in urticaria, and may persist for an hour or more, and not infrequently the patient falls into a restful sleep. These infants were from 5 to 14 months of age; five of them were of the vigorous, well nourished type in which eczema is so commonly seen; two of them were somewhat undernourished. A 30 month old boy with a severe generalized eczema of long duration, so that the skin was dry and much indurated and in numerous places infected from continuous scratching, seemed to be unaffected by several epinephrine doses. A sister, 6 months old, however, in the hospital at the same time, was favorably affected by epinephrine.

A much larger number of subjects with less marked eczema did not receive epinephrine because it was thought that their suffering from skin irritation was not sufficiently severe to enable us to be certain whether or not the epinephrine would be effective.

CONTINUED USE OF EPINEPHRINE

Five infants of this group received epinephrine every three or four hours hypodermically or intramuscularly during the day for from two to twelve days and occasionally at night when indicated. It seemed that they were more comfortable than during the days without it. One intelligent mother remarked that she had never seen her infant so comfortable as when he had epinephrine.

EPINEPHRINE BY MOUTH

Although it is usually held that epinephrine does not show physiologic effects when given by mouth, the literature contains reports of a certain number of adults who have reacted to the administration in this manner, notably by a considerable rise in blood pressure. For this reason in three subjects epinephrine was given by mouth every three or four hours during the twenty-four hour day for several weeks without appreciable effect on the course of the disease, either by lessening the evidence of irritation or by shortening its course. A considerable number of dispensary patients, also infants, have been given epinephrine by mouth, without conclusive results; for while several mothers thought that their infants, at times, showed less discomfort with its use, other mothers did not, and the natural course of eczema even without treatment is so variable that no credence at this time should be placed in these results. The average dispensary patient, too, is unsuitable for critical study of this kind, for one cannot know whether a drug is given at home, so for this reason only those cases are reported that were observed in the hospital.

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[*] From the Babies' and Children's Hospital and the Department of Pediatrics, Western Reserve University.

DOSAGE

The hypodermic dose was from 0.1 to 0.3 cc. of the 1:1,000 solution, seldom more than 0.2 cc., however. This is somewhat large in comparison with the usual adult dose, but harmful results were not seen. Occasionally pallor of the face and extremities (from vasoconstriction) was noted, of but a few minutes' duration without other signs of toxicity. It is my impression that the relatively large dose is necessary for effective results. The infants varied somewhat in their reaction to epinephrine, for instance one of 9 Kg. weight was relieved of its suffering with 0.15 cc. and became quite pale with 0.2 cc., while a 5.5 Kg. infant of about the same age required 0.2 cc. for effective results and showed pallor only with 0.3 cc.

COMMENT

Infants with eczema, just as do other infants, cry and fuss from causes other than skin irritation. A number of times very restless, squirming infants were not quieted by epinephrine but became quite happy on receipt of a bottle. On the other hand, in one instance an infant was very restless and uncomfortable at feeding time, and would take neither her mother's breast nor complemental bottle, but became quiet with epinephrine and nursed well. In the presence of a mother who for weeks had taken her infant in arms at every whimper, epinephrine was not effective on one occasion but was so at other times after the mother had been persuaded to remain away from her infant.

No reference has been found in the literature to the use of epinephrine against itching in infantile eczema. Holländer[1] noted marked decrease in the itching and discomfort in three cases of eczema and in other skin lesions associated with itching in adults. The epinephrine was given subcutaneously, by mouth and in an ointment.

Ephedrine gives relief in many cases of asthma. As it is usually effective by oral administration, it is suggested that it be tried in suitable cases of eczema. We have nothing to report at present.

CONCLUSIONS

From these results it appears that epinephrine subcutaneously or intramuscularly gives temporary relief from the severe discomfort of certain eczematous infants as it does in urticaria. Sufficient data are not at hand to warrant an opinion as to whether it is otherwise beneficial in eczema, further than that its sedative action lessens the effect of the trauma from the scratching.

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[1] Holländer, A.: Chronic Treatment with Epinephrine, Deutsche med. Wchnschr. 51:439 (March 13) 1925.

Clinical Notes, Suggestions and New Instruments

UNUSUAL COMPLICATION FOLLOWING A LOW CESAREAN SECTION *

Alice F. Maxwell, M.D., San Francisco

A. V., a Greek woman, aged 27, a multipara, seen in the outpatient department of the University of California Obstetrical Service in the seventh month of her second pregnancy, had been delivered of her first child seventeen months previously by cervical section, by an experienced obstetrician, after some hours of labor. A cephalopelvic disproportion was the reason for section. Her convalescence was uneventful, and she was discharged after thirteen days.

The pelvic measurements, physical examination and pregnancy were normal, but the patient was advised to report to the hospital with the onset of labor pains. In general, it has been the policy of the department not to permit a patient to attempt natural labor after a previous cesarean section.

Labor began late at night, just at term, but the patient did not enter the hospital until four hours had elapsed, at which time the pains were coming every three minutes and were nonexpulsive in character. The membranes had not ruptured, and there was no hemorrhagic discharge. No rectal or vaginal examination was made, and she was immediately prepared for a laparotomy. Within an hour the patient was catheterized and anesthetized; the old scar extending from the umbilicus to the symphysis was excised and the abdominal cavity entered. A few omental adhesions to the former midline incision were readily freed and the lower portion of the uterus presented. Much to my surprise, a fair sized hematoma about 3 inches (7.6 cm.) in diameter was found under the peritoneum at the vesico-uterine junction. The peritoneum was excised at this point, and the blood clot removed, which showed that the bleeding was coming from a rent in the uterus just behind the bladder. The rupture was about 2 inches (5 cm.) long, running in a longitudinal direction, and a finger was passed through the separation directly into the lower uterine cavity. There was no difficulty in separating the bladder off the uterus, enlarging the incision through the rupture and delivering the child.

An 8 pound (3.6 Kg.) baby girl was delivered in good condition. The mother made a rapid recovery, and was discharged on the fourteenth day.

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* From the University of California Medical School.

TREATMENT FOR ACUTE TRAUMATIC HEMATOMA OF EXTERNAL EAR

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Athletic Physician, Cornell University

This condition, which is common among boxers and wrestlers and is less frequently found among men engaged in other sports, responds as a rule to a very simple treatment. During the last five years I have had the opportunity to treat about 100 cases, and in all of these I have obtained good results. I feel that I can promise a perfect ear if instructions are followed.

The treatment consists first in aspirating the blood or serum which is present and then applying pressure to the anterior and posterior surfaces so as to place and keep the surfaces once separated by the fluid in apposition. Aspiration can be done immediately or at any time within five days after the date of injury. This pressure should be applied for six or seven days, and can then be safely removed. To get the best results the ear should be carefully protected, and not be injured even slightly for about two weeks after treatment; otherwise, some thickening is apt to occur. In wrestlers it is often impossible to stop them from practice for a period of a week or more, so I make no promise that they will get a perfect ear. I usually tell them they are liable to have some thickening. In a number of cases, however, this thickening has been so slight that it is not noticeable except to those who know about the injury.

The method of applying pressure varies considerably. If the hematoma occurs along the edge of the ear, i. e., in the fossa of the helix, I cover a piece of number 18 copper wire with adhesive tape very evenly, bend it so that it fits the fossa perfectly, and then by small pieces of adhesive tape draw the edge of the ear firmly over the covered wire This I always remove during wrestling practice Recently, I took a small piece of felt instead of wire and fastened it in the fossa with a very good result

When the hematoma is in the concha or in the fossa of the antihelix I fill these parts with plaster of paris and apply pressure by the use of the copper wire, making a loop on each end, covering these loops with adhesive tape, and then bending the wire so that one loop is pressing on the plaster cast and the other on the back of the ear This should be left on for a week The amount of pressure applied is just enough to be felt If pressure is made too great the ear will become tender, and a raw surface will develop as a result of pressure necrosis

If the patient wishes to continue with his sport, I often use thick collodian and cotton instead of the plaster of paris, packing it in firmly, allowing it to dry and then applying the wire as described I remove the wire whenever the patient wishes to practice, however, and reapply it as soon as practice is over I do not consider this method ideal but I have been able, with its use, to carry several boys through the wrestling season with little or no deformity

I have not found aspiration in itself to have any value, and I believe that the success of the treatment depends on the proper application of pressure after aspiration I aspirate all hematomas whether small or large, having obtained as little as 0 1 cc and as much as 5 5 cc

Prevention of this condition however, is even more important than its treatment, and a very effective scheme for prevention is to pad the ears front and back with cotton and then bind them close to the head with a band of adhesive tape 1½ inches wide by 30 inches long Protected in this way, a wrestler may safely withstand considerable 'roughing" as far as his ears are conerned

DIPHTHERIA A CASE OF LABORATORY INFECTION *

Robb Spalding Spray, Morgantown, W Va

Numerous references to laboratory infections with plague, typhoid, tularemia and other diseases may be found in past and current literature Similar references to diphtheria, however, seem to be quite uncommon The instance presented here of a clear-cut laboratory infection, establishing a definite incubation period peculiarly supported by a control, would appear to warrant a brief report

In a class in medical bacteriology a strain of the diphtheria bacillus was given out for cultivation, Tuesday, April 19, 1927 This strain was isolated three years ago during a local epidemic from one of a family in which four severe cases developed Its toxicity has been repeatedly demonstrated by death of inoculated guinea-pigs within three days

Cultures were given out on Loeffler's serum with considerable condensation water on the slants During the course of the hour one student reported that the tube from which he inoculated had been tilted and the cotton plug wetted, and that on flaming the plug and shaking to extinguish the flame he had spattered his face We at once required him to wash his hands with 5 per cent phenol (carbolic acid) and his face with mercuric chloride, followed by hot water and soap This man who may be considered a "control," remained well

On Friday another student was absent from class, and it was reported that he had a "sore throat" On Saturday at noon a throat swab was submitted from him by a local physician, who reported a definite membrane, pulse rate 120, and temperature 100 5 F Direct examination revealed numerous spironemas and fusiform bacilli, giving a definite suggestion of Vincent's angina, but there were also observed numerous slender bacilli of diphtheritic morphology, except that granules were not sharply defined with either Neisser's or Albert's stain However, in view of the history and the toxic condition, 10,000 units of antitoxin was given intravenously without awaiting further report On the following day Loeffler's serum culture showed a profuse growth of a typical slender granular diphtheria bacillus, identical in morphology with the laboratory strain A pure culture was isolated, and a guinea-pig inoculated with this strain died in less than ninety hours

The patient stated that within three hours of the administration of antitoxin his temperature and pulse rate dropped, and the toxic symptoms had practically disappeared Within twenty-four hours the soreness in the throat subsided and the membrane faded He made a prompt and complete recovery, and two negative cultures were obtained on the eighth and ninth days from the date of injection of antitoxin, on which he returned to class Questioning revealed that this student had the same experience as the "control," but regarded the matter lightly and did not report the incident or take any prophylactic precaution It may be of interest to note that the case has served to stimulate a healthy respect among the students for the subject of bacteriologic technic as applied to pathogenic bacteria

OTOMYCOSIS REPORT OF THREE CASES

P M Lewis, M D Memphis Tenn

I am prompted to report these cases because of a recent article[1] on otomycosis by Dr Joseph W Miller of New York

REPORT OF CASES

Case 1 —Mrs F aged 40, seen in my office, June 16, 1926, had never had any ear trouble until four days previously, when she noticed an itching and fulness in the right ear Examination showed a large whitish gray mass, completely covering the membrana tympani and the lining of the bony canal wall Strong irrigation dislodged the mass, which was like a cast of the drum membrane and inner canal wall It was definitely a fungus growth macroscopically, so microscopic examination was not made The ear was scrubbed out with 95 per cent alcohol and 2 per cent salicylic acid in alcohol prescribed for use at home There were no further symptoms and no recurrences

Case 2 —Mrs F M P, aged 26, referred by Dr Henry Watkins and seen, Sept 13, 1926, stated that the left ear had been stopped up for two weeks, and that there had been considerable itching and rather severe pain for the past two days Examination revealed a very large, yellowish white mass which filled the inner portion of the canal and covered the membrana tympani The same treatment as in case 1 was used with immediate relief of all symptoms Microscopic examination showed the growth to be a mold, *Aspergillus flavus*

Case 3 —G, a man, aged 20, seen, Oct 28 1926, stated that the right ear had felt stuffy for four weeks, had itched a great deal, and for the past week had been very painful Examination showed a dirty grayish mass covering the drum membrane and the anterior and inferior canal wall in its inner half The treatment used in cases 1 and 2 was employed with the same result Microscopic examination of the mass showed *Aspergillus niger*

COMMENT

Dr Miller states that his two patients had been using olive oil in their ears It is the usual teaching that oils or glycerin have been used in ears which develop otomycosis Bezold found that 75 per cent of all the patients he saw had been using them None of my three patients had ever had previous ear trouble They were all intelligent, educated people None of them had ever used a drop of any kind of oil or glycerin in their ears I questioned them particularly about this, as I had been taught that the use of oils was practically always responsible for fungi growing in ears It is now my belief that the history of oils having been used is a mere coincidence People have a deep-rooted conviction that oils and glycerin are very beneficial for ear ailments, especially if there is any pain or itching It is therefore obvious that a large percentage of patients with otomycosis will give a history of having used "sweet" oil or something of the sort in their ears

Why these fungi lodge and grow in some ear canals I do not know, but the diagnosis is extremely easy and the treatment very simple and efficacious.

1224 Exchange Building

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* From the West Virginia University Medical School

[1] Miller, J W Otomycosis Its Relative Frequency, J A M A 88: 1077 (April 2) 1927

This case has been presented because it brings out several interesting and instructive features:

It is one of the few reported instances in American literature of uterine rupture occurring after a cervical cesarean section Indeed, the rarity of this complication after this type of incision has been emphasized as one of the advantages of the operation.

Our methods of judging the strength of the uterine scar and its ability to stand the strain of subsequent labors are not infallible. The history of an easy normal convalescence and discharge from the hospital within two weeks would suggest the absence of uterine infection at the first operation, with resulting good healing of the incision. Nor can the weakness of the scar be attributed to inexperience and poor approximation of the cut surfaces. The surgeon at the first operation was an experienced man and an enthusiastic advocate of the advantage of the low cervical incision.

All obstetricians recognize that low implantation of the placenta may impair and weaken the uterine wall The absence of this complication or any etiologic factor leading to weakness of the scar is significant.

Finally, this case serves to emphasize that a scar in the uterus, in either the upper or the lower portion, is not innocuous, and must be regarded as a factor of unknown strength Its integrity in subsequent labors cannot be determined by our present methods of diagnosis, and its potentialities to rupture must always be appreciated.

New and Nonofficial Remedies

PLASMOCHIN

Preliminary Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement. W A. Puckner, Secretary.

Plasmochin is a synthetic quinoline derivative, developed in Germany and proposed for use in the treatment of malaria For many years attempts have been made to find a substitute for quinine that would be cheaper, less bitter, less toxic and more specific than the natural drug Plasmochin appears at least to represent a step forward in this search though it is by no means a full solution of the problem of eradicating malaria. It is said to act by destroying some of the forms of the malarial parasite and by inhibiting the development of others.

Reports have been published on the use of Plasmochin in malaria produced in canaries, and some clinical trials have been reported. All of this work seems honest, efficient and well controlled. No overstatements or overenthusiasms appear anywhere, except possibly in the papers by Prof P. Muhlens of Hamburg. Professor Muhlens mentions cyanosis and gastralgia as toxic symptoms in man when large doses of Plasmochin are used But Dr P Manson-Bahr states (*Brit. M. J.*, March 12, 1927, p 466) that cyanosis, due apparently to the production of methemoglobin in the blood, may occur in some sensitive human beings *on a dose of the* drug less than that necessary to affect the malarial parasites Manson-Bahr also states that in man the effective dose of Plasmochin causes the appearance of urobilinogen in the urine for several days. All of the observers, both of man and birds, appear to agree that.

1. The new drug is most effective on the quartan forms of malarial parasite.

2. In tertian malaria a [illegible] of the new drug with quinine (in dosage of 0 01 [illegible] 25 Gm of quinine sulphate) is mo[illegible] alone

3. As shown by Dr. Roehl's work on bird malaria Plasmochin, in this animal, is sixty times more effective than quinine.

It should be pointed out that results derived from the study of bird malaria have chiefly a suggestive value, and that, in view of previous disappointing results from widely heralded new drugs, further clinical study must precede any really optimistic estimate of this drug's therapeutic value in human beings.

Plasmochin is manufactured by the I G Farbenindustrie Aktiengesellschaft, Germany In the German publications, Plasmochin is somewhat indefinitely stated to be an alkylamino-6-methoxyquinoline salt The Winthrop Chemical Company states that it has imported a considerable quantity of the drug in the form of tablets for clinical trial on a large scale by American investigators; the packages of these tablets bear as a synonym for Plasmochin the somewhat more definite chemical term, ethylaminoquinoline tannate. The Council asked the Winthrop Chemical Company to furnish a supply of the drug itself, so that standards which shall assure the identity and uniformity of the product may be established. The firm replied that it would endeavor to secure the requested specimen from the manufacturer in Germany, but that the product when placed on the market in this country will be manufactured here

The Council has authorized the publication of the preceding statement in response to requests for information regarding Plasmochin, and has postponed further consideration until clinical evidence concerning the efficacy, safety, and dosage of the product is available. The Council, however, at this time calls attention to the fact that the name chosen for the compound, Plasmochin, has a certain degree of therapeutic significance instead of indicating, as it properly should, merely the chemical composition of the product. A list of references to Plasmochin is appended.

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Synthetic Remedy for Malaria, Berlin Letter, The Journal, Oct 23, 1926, p 1408

Plasmochin, the Malaria Remedy, Berlin Letter, The Journal, Nov. 20, 1926, p 1758

Manson Bahr, Plasmochin and Malaria, Reports, Royal Society of Medicine, *Brit M J* **1**: 466 (March 12) 1927

The Treatment of Malaria, editorial, *Brit. M. J.* **1**: 484 (March 12) 1927.

Plasmochin, editorial, Lancet **1**: 664 (March 26) 1927

Heart Block.—Recent advances in cardiology have confirmed the views, more than once expressed, that life is mainly threatened by myocardial conditions, and in these are included changes in the sino-auricular node, auriculoventricular node, and the bundle of His. . . . I need only briefly mention the two special nodes of tissue, the sino-auricular node close to the base of the auricles, also the auriculoventricular with *the bundle of His running down in the* myocardium and dividing into two branches, one for each of the ventricles The impulse to rhythmic cardiac contraction originates in the tissue of the sino-auricular node, and is transmitted by the muscular fiber of the auricular walls to the auriculoventricular node, and therefrom by the bundle of His to the ventricular walls. The heart is supplied by branches of the vagus and the sympathetic system of nerves; branches of both of these reach the sino-auricular node, also the auriculoventricular, while the substance of the cardiac muscle is capable of originating beats of its own When through disease the sino-auricular *node* ceases to function, the auricles pass into a condition of fibrillation, but the ventricles still continue to beat at a rate and with a rhythm special to themselves One of the results of alteration in the rhythmic discharge of impulses from myogenetic and cardiac nervous mechanisms is the occurrence of extrasystoles or of tachycardia An extrasystole is but a single contraction due to the impulse which produces it being discharged earlier *than* those normally emerging from the sino-auricular node "Heart block" is an irregularity of rhythm due to some defect in the auriculoventricular node, or the bundle of His, whereby impulses *from* the sino-auricular node are not conveyed to the ventricles, and as a consequence the ventricles commence to beat spontaneously —Oliver, Thomas: Heart Disease and Pregnancy, *Brit M J.*, April 16, 1927.

THE JOURNAL OF THE
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SATURDAY, JULY 9, 1927

LIMITATIONS OF GOITER PROPHYLAXIS

Interference with the usual routine of life and activities of individuals is seldom popular in modern democratic governments. This is true in relation to the physical and mental health of persons as well as with respect to their working schemes and political doings. Consequently it is not easy to institute plans for human betterment of either a physiologic or a social character on any wholesale basis involving large or fixed groups of the population. The history of attempts at universal vaccination illustrates this. It crops out also in efforts at widespread physical examination. If these are made compulsory, they are likely to be regarded as an insult to personal liberty. Nothing short of education can overcome these inborn feelings; nor is it wise in a democracy to tolerate the subjugation of the individual except under circumstances that have a nearly universal appeal of wisdom and justice.

The relation of a shortage of iodine in the environment to the incidence of endemic goiter has become well founded.[1] Extensive data are now available to show that iodine is of wide distribution in minute traces and is more or less concentrated by the leaves of plants and the thyroid glands of animals. Goiter is due to a deficiency of iodine. In the words of a recent writer,[1] the history of the past century teaches most emphatically that the treatment of goiter is unsatisfactory and accomplishes little toward the control of the disease, but those attacking the problem from the standpoint of preventive medicine—physiologists, biochemists and public health authorities—have accumulated sufficient evidence to justify the assertion that endemic goiter is the easiest known disease to prevent. By further detailed study of the fundamental principles underlying the cause and prevention and with the constant application of scientific data by the state health organizations, we should, he concludes, see the fulfilment of an earlier prediction: Within another generation there will be no endemic goiter problem.

Until recently, so-called goiter surveys were largely concerned with regions for which a high incidence of the disorder was either known or suspected. There is ample reason for believing that proximity to the sea confers a comparative freedom from endemic goiter.[2] Not only are the food and drinking water obtained near the sea more likely to contain the iodine needed to prevent goiter, but the wafting in of ocean spray is believed by some to contribute measurable quantities of the requisite element. Moreover, the inclusion of sea food in the dietary undoubtedly aids in maintaining the equilibrium of the thyroid gland. The observation that endemic goiter is least frequent along the seacoasts apparently holds true, with minor exceptions, in America and in Europe; for the disease is most conspicuous in the interior of these continents. There are some exceptions, however, that indicate the real need of specific rather than generalized information for each district. The newer studies of some of the states on the Atlantic Coast furnish instructive evidence from which it is apparent that endemic goiter is present to a far less extent in Massachusetts than in certain states in the Great Lakes Basin. Moreover, the incidence of goiter is not uniform in Massachusetts, being least along the seacoast and greatest in the central and western portions. Connecticut presents similar features.

Because of the relatively slight incidence of thyroid enlargement in these states and the fact that a large majority of the involvements are of the minor type, the government experts[2] believe there is no reason for special preventive measures on the part of the state and local health departments. They do not see any necessity for universal prophylaxis such as may be attained by iodization of table salt or municipal water supplies. This advice is in accord with the position taken by The Journal and supported by such consultants as Plummer and Marine.[3] It will not be amiss to repeat the warning of Olesen and Taylor.[2] It should be remembered, they remark, that the treatment of endemic goiter is frequently disappointing. Especially should it be recalled that iodine, used in treating goiter, is a two-edged sword. When used injudiciously, either in improper doses or in certain types of goiter which are made worse by such medication, iodine may inflict irreparable harm. Only the well trained and experienced medical practitioner should undertake to treat existing goiters.

In localities, such as those referred to, where goiter does not become a problem for community prophylaxis, the responsibility of the practicing physician becomes all the greater. To him is shifted the more serious responsibility for the exceptional "few individuals" in a "few localities." Probably the period of pregnancy presents an outspoken instance for his consideration. An observer in this field has remarked that every survey or study emphasizes the importance of prevention during pregnancy. The relation of congenital defects to the adenomatous or tumor conditions of later life is being appreciated more and more with each careful study. The disappointments in our attempts to control or treat tumorous thyroids are known. Therefore, he adds, we cannot stress this point too strongly and in endemic goiter districts we need the attention of the physicians who educate and direct women through this important period, and of every prospective mother. According to Marine,[4] the administration of iodine, possibly to the extent of a milligram a day during pregnancy and lactation, would be an excellent physiologic procedure, whether the individual resides in a district where the incidence of goiter is high or in a district where the incidence is extremely low. Iodine would be beneficial in meeting the increased physiologic demands during these periods even though the natural supply of the element is always sufficient to prevent thyroid enlargement.

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[1] McClendon, J. F.: The Distribution of Iodine with Special Reference to Goiter, Physiol. Rev. 7: 189 (April) 1927.

[2] Olesen, R., and Taylor, N. E.: Endemic Thyroid Enlargement in Massachusetts, Pub. Health Rep. 42: 804 (March 25) 1927.

[3] See also Oleson, Robert: Iodization of Public Water Supplies for Prevention of Endemic Goiter, Pub. Health Rep. 42: 1355 (May 20) 1927.

VACCINATION OF THE NEW-BORN AGAINST TUBERCULOSIS WITH BACILLUS CALMETTE GUÉRIN

The history of the vaccination of new-born infants against tuberculosis with Bacillus Calmette Guérin (abbreviated to B C G) since July 1, 1924, in France and other countries over a period of two and one-half years to Jan. 1, 1927, has just been reviewed by Professor Calmette with his co-workers Guérin, Nègre and A. Boquet at the Pasteur Institute in Paris. Indeed, the entire March issue of the *Annals of the Pasteur Institute*, consisting of 368 pages, is devoted to this subject. The vaccine is a living tubercle bacillus of bovine origin rendered avirulent for all animals by 230 passages on bovine bile medium. While the authors quote the reports of other workers and use these as reasons for suggesting the vaccination of new-born children with B C G, they depend chiefly on their own experimental work as the prime reason.

For the preparation of the vaccine, the B C G organism is transferred from the bile medium to a synthetic medium from which in about three weeks, when it has attained a full film and the living organisms are at the maximum, the clear underlying medium is removed by a pipet. A number of sterile glass beads and a small quantity of dextrose solution are then added to the flask in which the bacilli remain, and this, fastened on a brass plate operated by an electric motor, is slowly revolved for fifteen minutes, when the clumps of bacilli are broken and an emulsion of bacilli is obtained. The emulsion is then diluted with a solution of 1 per cent dextrose and 4 per cent glycerol in water and shaken until the whole quantity is such that 2 cc. contains 0.01 Gm. of the bacilli. The liquid vaccine is then placed in ampules of 2 cc., which constitutes a single dose to be fed to an infant in milk: Three successive 2 cc. doses are given to each infant with two days intervening between each dose; for example, the doses are given on the third, fifth and seventh days of life. Each dose is approximately 100 mg. by weight, or 400 million bacilli of B C G.

In France alone, up to Jan. 1, 1927, 21,200 children had been vaccinated. As many more in Belgium, Roumania, Greece, Algeria and Indo-China raise the total to 43,283 children. Out of this large number vaccinated, only 982 were suitable for statistical study by Moine and 1,050 by Biraud. The 1,050 of the latter's studies presumably included the 982 used by Moine and therefore may be taken as the maximal number so carefully recorded as to satisfy the statistician. For these, however, there were no control groups and both statisticians were compelled to compute control figures from general death rates and from reports of studies for other purposes and from other periods. They arrive at mortality rates from tuberculosis of 26 per hundred from tuberculosis dispensaries and 32.6 per hundred for all children under 1 year of age, Paris born and left in a tuberculous environment (p. 206). These figures are based on reports as far back as 1913, and for Stuttgart as far back as 1889. For the period 1924-1927, after years of intensive antituberculosis work they *do not* have mortality figures with which to compare their experimental statistics. There are almost no necropsy studies in the series of those dying. Another conclusion which a careful perusal of the figures forces on the reader is that vaccination not only lowers the mortality rate from tuberculosis but also lowers that from all other causes of death. It would seem that the care and education which precede and follow vaccination must render as preferred the group of children and families studied, and that the full truth is not evident from the comparisons drawn. It is a matter for regret that, in an experiment so far reaching and so extensive, care was not taken to secure control figures that might have made the published results more convincing.

Other features of the different papers are striking. In the first paper reference is made to the infection of the fetus by a so-called tuberculous ultravirus which traverses the placenta. This type of fetal infection is one explanation offered for the high death rate in the first year of life of infants born of tuberculous mothers, and it is used as one chief reason for vaccination with B C G in the early days after birth. The finding of Valtis (p. 211) and others that a new-born child already is infected with a potential living infection is contrary to the accepted views and, if found to be true in general, would be of far-reaching importance. It would, however, in a measure render necessary a reconstruction of the premise on which the proposed vaccination is based; for in such a case the child would already be potentially infected or possibly resistant to a reinfection. It would seem imperative that this question of the presence of a filtrable virus in the fetus of a tuberculous mother be determined by most careful work.

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[4] Marine, David: The Importance of Our Knowledge of Thyroid Physiology in the Control of Thyroid Diseases, Arch. Int. Med. 32:811 (Dec.) 1923.

The question of tuberculin reaction in infants during the first year of life also forms a serious phase of the problem. The instructions accompanying the vaccine state that the tuberculin test should not be used, as it is of no value in infants under 1 year of age. But the authors state on page 208, "We already know by studies of the tuberculin reaction (Pirquet) that of every 100 children living in a tuberculous environment seventy-six are infected at the end of the first year." On page 257, however, Weill-Hallé, who alone seems to have followed his clinical studies with the care of scientific accuracy, finds that at the end of the first year in those vaccinated with B C G by ingestion 26.6 per cent of positive reactions develop in children born in a tuberculous environment and only (p. 258) 7.6 per cent in those born in a nontuberculous environment. At the end of two years the percentage of the vaccinated born in a tuberculous environment with positive reactions is 60, or a little more than double the number observed the first year, while of those in a nontuberculous environment the percentage with positive reactions is 28, or nearly four times as many as in the first year. A fair conclusion from these figures would seem to be that the ingestion of avirulent tubercle bacilli does not have great influence on tuberculin sensitiveness and, from our former knowledge, we could safely add, on infection with tubercle bacilli from the outside. Certainly ingestion of B C G does not produce skin sensitiveness in 100 per cent of those vaccinated in this way.

This is further substantiated by the work of Remlinger and Bailly (p. 288) in guinea-pigs, for none of these developed skin sensitiveness after ingestion of B C G and yet there were acid-fast organisms in the stools of these animals from the second to the twelfth day, which disappeared completely only after the sixteenth day.

In sharp contrast to this is the study by Weill-Hallé and Tarpin on a small group of children vaccinated subcutaneously with B C G. All these developed a skin sensitiveness to tuberculin in from two to three months; the determination of the exact time of its appearance was interfered with by the time of the return of the child to the clinic. In each case of the latter group, as in cattle and other animals inoculated subcutaneously, a tuberculous process of cold abscess was caused with resulting sensitiveness of the skin. Surely the only conclusion is that ingestion of avirulent tubercle bacilli does not as a rule create the condition which we have all believed to be the evidence of tuberculous infection—a tuberculin reaction.

This does not dispose of the question, however, of the persistence of tubercle bacilli in the intestines for a period of ten days in guinea-pigs (p. 288). Their very presence there, possibly multiplying, may create itself a surface or a general resistance to the invasion of bacilli of greater virulence or invasive power. From this standpoint, vaccination by ingestion may be of significance. Even if the evidence offered in these papers is not convincing at present it may possibly lead to new knowledge.

Guérin, Nègre and Boisière (p. 233) devote a paper to a cattle experiment but, while it is of economic interest, the method of vaccination is subcutaneous and is not therefore in the same category as vaccination of the new-born by ingestion of avirulent B C G.

This may also be said of the Dissé experiment with monkeys (p. 205). There was only one monkey vaccinated with B C G by ingestion alone and, while this is suggestive, further proof is required before it could be used as a basis for human vaccination.

These papers may be said to represent the culmination of the life work of a revered scientist. They may open a new era in the eradication of tuberculosis and in the knowledge of its epidemiology. For the United States, however, and for all countries it would seem wise to hold in check uncontrolled enthusiasm for its use until those charged with the responsibility of safeguarding the public have carefully proved that the method and the premises are sound.

THE CHANGING RECORDS OF MORTALITY

Viewed from an economic standpoint and stated somewhat bluntly, the value of the individual depends in considerable measure on the length of his life. National welfare, so far as it is an expression of possibilities of human performance, is inevitably concerned with the problems of mortality. The health and vigor of a race or group is a decided asset; ill health and its consequences are burdens imposed on the population. Students of civilization have inquired whether or to what extent it is actually necessary for the world to carry this "colossal load" of human misfortune. One can readily understand why every report of a better turn in the mortality trend is so heartily welcomed.

Indications from modern biologic investigations might lead to the conclusion that death is neither inevitable nor fundamentally necessary. The "immortality of protoplasm" is at once suggested by the modern study of tissue cultures. Cell masses kept alive outside the body, as in the experiments of Carrel of the Rockefeller Institute for Medical Research, have continued to multiply and grow apparently unchanged by time during more than a decade. This accomplishment has depended on securing a suitable external environment for the isolated cells. Woodruff's demonstration, at Yale University, of the uninterrupted reproduction of protozoan protoplasm without conjugation through several thousand generations of paramecia likewise raises the question as to the necessary interruption of existence. One can understand, then, why a modern imaginative writer[1] should have suggested that if one could at intervals thoroughly wash man free from his poisons and nourish him, there seems to be no reason why he should not live indefinitely.

On the other hand, there are plenty of indications of Conrad's reminder of the "faithful death that never forgets in the press of work the most insignificant of its children." Pearl[2] has argued that the potential duration of life is definite and unchangeable: it is a function of bodily organization. It is seen in all forms of life: after a certain definite period death is a natural consequence whether the living thing is a plant or an animal, invertebrate or vertebrate, cold blooded or warm blooded, bird or mammal. Rarely, however, is this full potential span of life realized: some environmental factor steps in to terminate life before its natural course is run.

From this standpoint, the problem of effective living and personal hygiene consists in making the actual duration of life approach the potential opportunity. If age-mortality statistics were available from throughout the centuries, it would be possible to ascertain whether the actual span of life has been materially altered for the human race with the progress of time. The records of the past often present themselves in most unexpected ways. The paleontologist and the geologist read the age of the earth from the rocks. An ingenious anthropologist, Professor Todd[3] of Western Reserve University, has attempted to secure a correct appraisal of the ages at death in bygone days by "wringing the secret from the bones themselves left immutable by time in the grave." According to Todd, it is possible by examination of skeletons to estimate the age at death of ancient or primitive populations. For example, from adolescence to the age of 25 years, union of epiphyses is the dominant feature. From 25 to 30 years, closure of sutures continues the tale along with the consolidation of areas, such as the symphysis pubis, which possess rudimentry epiphyses. From 30 to 35 years, the skeleton is at its prime and there is a lull in differentiation. At subsequent ages, other bony structures have distinguishing characteristics.

The study of old skeletal remains in various parts of the world indicates that the "peak" of the mortality curve coincided with a comparatively early age. Todd asserts that the straws of evidence all point in the one direction. The peak of old-age-death, so prominent in modern mortality curves, fades into insignificance the further one recedes from the present day, and in the dimmer records of the distant past there is no real indication of its existence. This does not gainsay the record of an occasional patriarch among men; it is the story of the average man of old. The chief difference, according to Todd, between ancient peoples and civilized populations of today is the apparent fact that the peak of old-age-death is a comparatively modern achievement resulting from greater safety and improved conditions of living. He believes that the difference between the peaks of mortality in primitive and ancient people, on the one hand, and of modern civilized humanity, on the other, is roughly thirty years.

The evident prolongation of human life in the course of time does not apply uniformly to all groups of modern society. Even today one can find the analogue of the older civilizations. In the so-called lower strata the old-age peak characteristic of today is not to be found, owing to the relatively great hazards of life to which these unfortunate people are exposed when not sheltered by specific social legislation. This, at least, is Todd's interpretation of the story in which he has attempted to reconstruct the record of mortality of the life of lost centuries. It inspires a belief that what we call modern civilization has, after all, some positive accomplishment in respect to human longevity among those in whom its influence can make itself most felt.

Current Comment

THE NATURE AND RELIEF OF PARALYTIC ILEUS

Cessation of movements of the bowel may have a train of serious consequences. The problem is always serious to the clinician, particularly because it may incidentally attend operative intervention with other parts of the body as well as outspoken disease. A paralysis of the bowel is a familiar concomitant of violent irritation of the sensory nervous mechanisms. It is frequently one of the undesired accompaniments of the opening of the abdominal cavity as well as traumatization of structures within it. The term ileus has often been applied to such paralytic conditions of the intestines; but as the same expression is also used at times in relation to obstructions of various sorts, it ought probably to be abandoned because of indefiniteness. So-called paralytic ileus may be attended with chemical changes in the blood which have even been charged with etiologic significance for the genesis of the inactivity of the bowel. The clinical importance of ascertaining its nature and possibly a method of averting paralytic ileus is further stressed in recalling that the condition described may become complicated by secondary changes in the wall of the bowel due to stagnation of the intestinal contents, intraperitoneal suppuration or local anemia.[1] The circumstance that it is possible to produce an intestinal paresis experimentally in animals has greatly furthered the investigation of its problems. In man the ileus results occasionally after severe injury to a limb, after a trifling abdominal operation, or even after a severe nervous shock. The laboratory animals seem

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[1] Fisher, Irving; and Fisk, E. L.: How to Live, New York, Funk and Wagnalls Company, 1925, p. 182.

[2] Pearl, Raymond: Span of Life and Average Duration of Life, Natural History **26**: 26, 1926.

[3] Todd, T. W.: Skeletal Records of Mortality, Scient. Month. **24**: 481 (June) 1927.

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[1] Compare Occlusion and Gaseous Distention of the Bowel, Current Comment, J. A. M. A. **88**: 2038 (June 25) 1927.

to be somewhat less susceptible to the impairment of intestinal motility. Markowitz and Campbell[2] of Toronto have recently confirmed the observations of Wagner[3] that spinal anesthesia promptly restores bowel movements in cases of paralytic ileus. The Canadian investigators believe that the prompt curative effect of spinal anesthesia is due to abolition of an inhibition of bowel movements brought about by laparotomy or other physiologic "insults"; hence probably the paralytic ileus is essentially reflex in nature, and the chemical changes that have been described in the blood are the result and not the cause of the ileus. Markowitz and Campbell conclude that paralytic ileus as encountered in the clinic must be of the nature of reflex inhibition, dependent on the integrity of the reflex arc. Such a conception, they add, implies that the paralysis of the bowel movements observed at laparotomy is a physiologic ileus which, if unrelieved or augmented by other irritant stimuli, merges into paralytic ileus.

THE CHEMICAL NATURE OF CHARCOT'S CRYSTALS

The designation of Charcot's crystals, sometimes also termed Charcot-Leyden or Charcot-Neumann crystals, has been applied to a substance observed in striking crystalline form in certain tissues and their derivatives. They were first recognized in 1853 by Charcot and Robin in the spleen of a patient who had suffered from leukemia. Subsequently Leyden discovered crystals of a similar description in the sputum of asthmatic patients and regarded them as of possible diagnostic value. For the most part the Charcot crystals have either been omitted or continued to represent mere biochemical curiosities in the textbooks of medicine. Böttcher had suggested as early as 1865 that the structures are comparable with the crystals that sometimes bear his name but are usually referred to as spermine crystals. The chemical identity of spermine has now been definitely established and the artificial synthesis of the compound accomplished. In a recent review of this contribution,[4] doubt was cast on the alleged similarity of the Charcot-Leyden crystals and those of spermine phosphate. Apparently, however, the identity has now been made highly probable by German investigators[5] at the University of Greifswald. Thus another item long recognized merely as a name in the literature of the medical sciences has become a well defined chemical entity.

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[2] Markowitz, Jacob; and Campbell, W. R.: The Relief of Experimental Ileus by Spinal Anesthesia, Am. J Physiol. **81**: 101 (June) 1927.

[3] Wagner, C. A.: Arch. f. Gynak. **192**: 336, 1922. Asteriades, T.: Presse med **33**: 1480 (Nov. 1) 1925.

[4] The Synthesis of Spermine, editorial, J. A. M. A. **88**: 484 (Feb. 12) 1927.

[5] Wrede, F.; Boldt, F., and Buch, E.: Ueber die Natur der Charcot-Leyden Bottcher Neumann-Krystalle, Ztschr. f. physiol. Chem. **165**: 155 (March 31) 1927.

Training in Desirable Habits.—Only if the individual is habituated, exercised, practiced in good ends so as to be incapable of really knowing how and why they are good, will he be capable of knowing the good when he is mature. Pleasure in right ends and pain in wrong must operate as a motive force in order to give experiences of the good before knowledge can be attained and operate as the motive force.—Dewey and Tufts: Ethics, p. 216.

Association News

CONFERENCE ON PUBLIC HEALTH

Held in Chicago, March 24-25, 1927

(Continued from page 37)

March 24—Afternoon (Continued)

Public Health Education with Especial Reference to the Use of the Printed Page

Dr. Matthias Nicoll, Commissioner of Health, State Department of Health, Albany, N. Y.: If my remarks seem to apply too closely to my own state of New York, it is not for the reason that I believe New York State to hold a monopoly of knowledge regarding methods of public health education, but because I am more familiar with our own methods than those of others. Our printing bill last year was about $60,000, and if salaries and traveling expenses are included, the total makes up a good share of our budget. There are very few accomplished public health educators in this country or elsewhere, and it is seldom that a state or city possesses an educator who can handle the whole business alone. It is a wise procedure to interest all members of the staff in public health education, encouraging them to present ideas and furnish articles and items of public health interest, from whatever source, for publication in the official bulletin, or for use in addresses or articles on public health. A person furnishing such ideas should be kept track of and encouraged. In other words, understudies and assistants to the director of the division of public health education, if there is one, should be zealously sought for and tried out. In a large department, innumerable items of this kind are consigned to the general files and do not see the light of day until, months or years afterward, they are unearthed and found interesting but too stale to be applicable.

Up to three years ago, the official bulletin of the state department of health was issued as a monthly periodical and had attained quite a respectable age in years. It consisted largely of articles by authorities in various branches of the medical sciences, usually rather technical in character, and not infrequently somewhat too weighty for popular appeal. I fear all too frequently that it was stamped and confined to the library files or ignominiously filed in the scrap basket. About three years ago we began the publication of a weekly bulletin, the *Health News*. From the first it has been a phenomenal success, and the demand for it, not only throughout this country but from many foreign countries, is far greater than the supply. In addition to live news items regarding the health of the state, the bulletin serves as a medium for official orders to the staff, the health officers and the nurses of the state, outside the city of New York. The cost per weekly issue is $145 on a basis of 12,000 copies, and the total annual cost, irrespective of overhead, is $7,540. In this year's budget, the appropriation for the *News* was increased to $11,000, which will enable us to issue 20,000 copies a week. I know of no other state, except California, that is now publishing a weekly bulletin, and that bulletin is made up largely of statistical material. I cannot urge too strongly on those states and large cities which can afford it to publish weekly bulletins of current health events. They serve to keep the health administration "on the map" and to interest a large number of people in what is being done for the benefit of their health and welfare.

While radio talks do not come under the head of the present discussion, I believe that well thought-out topics of current interest in public health, broadcast by radio, at a definite hour each week, are of immense service, especially in the rural districts. Such talks have been given by the state department of health of New York each week to the number of about 257 and, in addition, a mimeographed copy of the "talk" is sent to 147 daily and 472 weekly papers throughout the state. It is found that 70 per cent of the former and 40 per cent of the latter publish these "talks" regularly. This service costs practically nothing and is worth more than the effort to furnish new topics for broadcasting. With the air, as it is at present, so cluttered up with conversation on every conceivable subject, including unsound and even false medical theories and the vawps of charlatans and quacks, antivaccinationists and chiropractors, it is probable that legitimate medical messages will be crowded out or found to be in such bad company that they will be withdrawn, but until that time arrives, it is my opinion that this form of public health education should be continued

I believe that the so-called boiler plate form of public health education has been pretty well abandoned throughout the country It was found by us to be an expensive and unsatisfactory service, especially for the reason that it was impossible to control the time of publication of the series of articles that were sent out in this form It was not popular with the larger newspapers, which preferred to do their own writing, and frequently resented by the smaller ones, which felt that they were being imposed on by giving free advertising space

Close contact with representatives of the daily press is a valuable adjunct in getting out frequent news releases, and for this purpose it is extremely important that some one in a health department should have acquired news sense, and be as familiar as possible with the peculiar psychology of newspaper men, which it is not always easy to grasp How frequently does it happen that a news item which we regard of very little interest is pronounced to be "great stuff" by the brethren of the press, and conversely, what we may regard as a wonderful piece of news and hopefully look for the next day fails to appear There can be no question that the story is frequently lost for the reason that the facts were not presented with due regard for newspaper technic

The division of maternity, infancy and child hygiene, and that of social hygiene have their *own* special methods of publicity The former, shortly after the receipt of a marriage certificate, sends out a pamphlet of instructions to prospective mothers About 30 000 of these go out annually This is a popular service, especially in the rural districts, where the advice of a physician is not readily available and prenatal care by no means all that it should be Baby books are distributed to the 1,300 registrars of the state, and by them sent to each mother on the receipt of a birth certificate These books are technically correct, readable and much in demand The director of the division of social hygiene sends out, four or five times a year, a typewritten pamphlet on venereal disease and subjects relating to sex to a specially selected group, making up about 15,000 persons In the group are included the Y M C A's, Y W C A's school teachers scout organizations, and churches The department also publishes many pamphlets on a great variety of subjects dealing with public health These are sent free on application

Posters are certainly of value in an intensive campaign of short duration and carried on for a definite purpose But posters retained and exhibited for an indefinite time, largely for their artistic value, are to my mind of very limited use Furthermore, I believe that the artistry expended on a poster should never subordinate the definite message that it carries A poster should appeal to the common sense of the public by setting forth, in concise and catchy phrases, advice which it is desired to have followed Pictures of pretty babies and adoring mothers may be useful for decorative purposes but they seldom, I believe, lead to the wide adoption of preventive measures against disease Before closing, I desire to pay my respects to and express my admiration for the editor and author of the best public health publication which comes across my desk, that of the city of Chicago Dr Bundesen's bulletins are always attractive, witty and full of common sense, well printed on good paper and, on the whole models of public health pamphlets

Mr Evart G Routzahn, Russell Sage Foundation New York Not long ago I gathered a few figures as to the circulation of health printed matter At that time I found that in one year more than 10,000,000 pieces of educational printed matter were purchased of the Division of Venereal Diseases of the United States Public Health Service or reprinted by the states, and the cumulative volume of health literature distributed by the Metropolitan Life Insurance Company considerably exceeded 400,000,000 pieces In other instances from one million to six million copies of a leaflet or folder were issued by a national organization Probably the quantity of health printed matter issued by national organizations is equalled by the state and local departments and associations A considerable proportion of what is distributed is not read and another larger section of it, although it is read, does not lead to action

Our educational material, especially that part of it which is printed, can be made much more effective As the means to this end I would suggest 1 More general use of *accepted* principles, technics and forms of skill adapted to our needs I refer especially to the technic of printing principles of psychology, and facility in writing in everyday language 2 Employment of persons to do the work of health education who are trained to do it, and this means that we must first offer training 3 Revision of the methods of supervision and the working conditions under which preparation of health education material is carried on 4 A philosophy and a program for the health education work of official and private agencies Both of these elements are lacking in the work of many agencies 5 Recognition of the time and thought that are necessary in producing publicity material that gets results Comfortable reading demands type of a minimum size of 10 point, unless very short lines are used (from 2 to 2½ inches) an "open" page obtained by space between lines and wide margins, is as important as type size there should be a strong contrast in color between paper and type, lower case letters are easier to read than capitals, shiny paper is not so easy to look at as dull finish paper Well planned, designed and printed text on a good and suitable grade of paper may cost little more than many jobs that look even cheaper than they are

It is sound practice to seek to get the attention of the reader by talking about something that already interests him to begin where he is and lead him from there to what one wants him to become interested in a concrete example gets attention more easily than a generalization, specific words such as toothbrush and carrots, are more quickly understood than broad terms such as care of the teeth and wholesome food, people follow advice most readily when it is made easy for them, and so on Perhaps the most important contribution of the psychologist is in the development of methods of testing the relative attention value of this or that color or form of copy, of finding out in advance what is the strength of a particular appeal and so on Advertising practice can give us a few lessons in the application of psychology to influencing behavior, but in most cases experience in this field must be translated and modified to meet our conditions and limitations One difficulty in applying the experience of commercial advertisers directly to our work is that advertising usually relates to a single concrete object An example of a health education campaign with an objective almost as simple and direct as that of selling tooth paste or yeast is that for vaccination against smallpox or diphtheria

Those who give health instruction frequently do not talk a language that the people most in need of this instruction can understand, and consequently thousands of lives that might be saved are lost annually The person who prepares publicity needs imagination and an understanding of people He also needs to keep up with current facilities and ideas for making printed matter attractive and getting it into use All of this implies the employment of a special worker for the job of health education and publicity At least, it calls for a generous time allowance for a person assigned to the task

To consider the resources most immediately available there is the education and publicity section of the American Public Health Association, which conducts meetings each year of a very practical kind and also has a department of methods in the *American Journal of Public Health* Here are other suggestions Read a book on the subject or two or three of them The Russell Sage Foundation has a reading list on publicity methods Go through the files of the *American Journal of Public Health* for the past three or four years Subscribe to the *News Bulletin* of the Committee on Publicity Methods Especially call in one or more consultants including a good printer and some one who issues good printed matter Seek opportunities for talking over your printed matter informally without reference to a particular printing job. Seek criticism and advice based on what you have already had printed. Invite criticism of your copy from newspaper men and other writers. Ask them to go over it and offer suggestions before it is set up in type. Arrange several dinner or evening conferences with the local group of health workers in which the printed matter of those present shall be discussed—with examples in the hands of all present. Probably at one of these conferences have a good designer of printing present who will criticize each piece in turn, pointing out what he thinks is good practice and what he thinks could be improved. At another time ask a writer to do the same thing with the copy. It may be possible to find an illustrator, a photographer, an engraver to come in for such a discussion.

Organizations that employ educational secretaries pick them up here and there and they learn the work by doing it—some of them very successfully, too. If the worker is to be trained on the job, it seems to me that there are several ways to help him succeed. It is especially important, as has been said, that the publicity secretary should know people and know something of the circumstances under which they will receive the material he is turning out. The publicity worker should be free to leave the office, walk the streets, look at the people or the shop windows, even go to a vaudeville or motion picture show. Study and conference with others in the same work are of special importance to the publicity worker.

Another matter that counts in getting the best work from a publicity assistant is the nature of the supervision given to his work. Better by far that there be some errors of judgment or of skill than that the creative spirit be submerged under the effort to get by. In urging greater freedom for the writer I am assuming that he brings some ability, judgment and experience to the work.

The $1,800 recommended several years ago for a young man or young woman with a variety of training and skill will not draw that type of worker into public health work, because of larger salaries and better opportunities offered elsewhere.

Have we a philosophy? Few seem to be thinking of what persons to reach and how best to reach them, and what they actually wish these persons to do about it. An analysis of the whole problem before printed matter is prepared would sometimes result in a decision not to prepare any, or to prepare something especially for industrial workers or farmers or housewives instead of for the so-called general public.

Through a cooperative effort by some of those here it would be possible to try out a plan of obtaining high grade service in designing folders that can be printed by local printers with the necessary changes required to make the material adaptable to local use. The procedure might be as follows: 1. Appoint a committee, or put it up to the American Public Health Association or National Health Council to appoint one. Let the committee select one or several sizes for a series of leaflets or folders for a particular use. Let them engage a specialist to prepare a layout, including paper, color, type faces and sizes, etc., for an approximate amount of copy, the general outlines of which will be supplied. 2. Another possibility would be to select the basic facts and ideas which should be presented to a particular audience for a particular purpose. Indicate the more important facts and ideas in this material. Check the material for its soundness from the public health point of view. Engage high grade people to write and illustrate the copy. Supply proofs or plates to those who wish to do their own printing. Accept orders for an initial edition.

An average of $5 or less each from the departments and associations represented here would provide several examples of the suggested layout service—type, paper, ink, etc.—with proof copies supplied so that the possibilities could be studied and applied to your own printing by your state or local printers. A test of the copy plan could be made on a similarly modest scale. After plenty of time to study and experiment with these examples there could be discussion of what next to undertake if the idea proved acceptable to a reasonable proportion of those concerned. After further use of the plan a way might be found to provide a revolving fund to finance the project whether or not it was decided that the service should be made self-supporting. This kind of service is so concrete, and its advantages can be illustrated so easily, that it seems probable that departments could secure gifts from interested people to cover their shares in the expense where it would be impossible to use official funds. Is it not possible that the private associations could likewise get special contributions for such services?

Dr. Morris Fishbein, Editor, The Journal of the American Medical Association and *Hygeia*, Chicago: The newspaper is the greatest medium for medical education of the public. Practically all other methods of education reach their largest audiences through the press. Unfortunately, material for publication in the press has to be put in a diction that will be understandable by a person about 14 years of age. The language must be according to the simple old adage "Tell it to Sweeney; the Stuyvesants will understand."

The chief difficulty in securing proper publicity for medicine and for health in American newspapers is the fact that there are as many as five hundred organizations in the health field attempting to secure publicity at the same time, and that individual newspaper editors and newspaper syndicates are also promoting this type of material. Today there is hardly a newspaper of repute in the United States that will take medical advertising matter without checking up its authenticity with the officers of the medical society in the community, or without telegraphing to the headquarters' office of the American Medical Association to find out the real value of the material. Today promoters of nostrums, of cures for cancer, tuberculosis or anemia, or foods or drinks alleged to have special virtues in promoting health secure their victims by a more modern method. The concern hires a publicity counselor and pays him a salary based on the amount of free publicity that he can get for his product in the newspapers. A high priced publicity agent who can get the product on the first page a certain number of times a week will do much more for his concern than could be accomplished by the purchase of advertising space.

The public is interested primarily in things that can be dramatized for them, and the greatest element of drama is conflict. Such battles fought in the public forum as the Rhinelander affair, the Snyder trial and the Hall-Mills case attract millions of readers. Medicine, too, has its tremendous conflicts, and when they are sufficiently dramatized they accomplish much for health education and the benefit of the public. The health educator who knows how to take advantage of such a news feature for the education of the public, and who is able to recognize the drama inherent in such an event, will accomplish much for the benefit of his readers.

Much of the health education conveyed to the public today is given by means of the newspaper health column. The first of these has been before the public less than a score of years. Today about fifteen such columns are syndicated through many newspapers. Some of them represent the highest type of medical education. They are cautious in their announcement of new discoveries and in the status of new medical work. Sometimes these columnists promote individual notions without giving their public a clear understanding that these are notions and not established medical facts. A few of these columns, however, are vicious in the promulgation of "patent medicine" advertising or preposterous health advice.

It is difficult for the public to distinguish between newspaper material promoted with altruism and that issued primarily for personal gain. Never a week goes by without a telegram from newspapers and from press associations all over the United States coming to the headquarters office of the American Medical Association, and asking for immediate advice on medical news. The headquarters office is able to provide replies because study has been made of the way in which the newspapers work. The newspaperman's chief diet is news—news is material that must be published immediately. Through the various departments of the Association, information concerning any new discovery in medical science or in the field of quackery is promptly available. In the Bureau of Investigation is a file of more than 125,000 cards cross-indexing every type of quackery and every person who has been engaged in quackery in the United States for many years. In its biographic department is the record of every physician in the United States from the moment he enters medical college until he dies, and the card is left for twenty years after that In association with this is a biographic file in which are kept newspaper clippings concerning physicians that have come into the headquarters office through the clipping bureaus covering every portion of the United States Finally, the American Medical Association prepares and publishes a periodical known as the *Quarterly Cumulative Index Medicus*, in which appears reference to every article appearing in any scientific publication, indexed by the subject and by the author's name When a telegram is received from any newspaper regarding any medical discovery, it is possible to locate immediately the scientific article on which the announcement may be based, reference to all the previous work of the investigator, and a statement as to his position in medical school research institution or other organization Such information is invaluable in determining the authenticity of any medical item Moreover, connections have been established in all the great medical centers of the world so that information can be had immediately by telegram or by long distance telephone, when it is required promptly for an important purpose

Such syndicate services as the Associated Press, the Newspaper Enterprise Association, and Science Service constantly check medical news material through the American Medical Association in order to be assured of its authenticity

More and more newspapers are asking for medical help in the preparation of considerations of special topics Such a series as that appearing in the New York *Herald Tribune*, covering the craze for reduction in weight, is a response to this request But not all newspapers are equally careful in the checking of scientific material Recently, in the Sunday issue of one of the Chicago newspapers appeared an announcement that a physician had been arrested under a warrant that accused him of unethical conduct and of malpractice In the same issue was a feature article as to the remarkable results secured by this physician in reducing the weight of some aged actress by the wholesale removal of fat from those portions of her anatomy where it was most abundant The *feature article was an advertisement, but it was not labeled,* according to the government regulations, with the significant letters 'adv" at the end It appeared, instead, as a portion of the magazine section of the paper It is well known that such magazine sections may be printed some time in advance of the news sections, but the questionable character of the publicity for the physician concerned was not in any sense of the word a new question

It is well known that feature articles are manufactured to fit special occasions, and their development frequently represents the work of weeks or of months In many instances, such feature articles are written by men noted for their contributions to medical education of the public The medical writer who respects the ethics of his profession will not build a feature article merely for the opportunity of selling it, but will limit himself to such matters as constitute actual education It is a simple matter to exploit the half baked discovery of some enthusiastic medical investigator as an achievement It is a far more difficult matter to prepare in a form that is interesting and instructive to any lay reader the scientific developments that are on a thorough basis and that constitute established medical knowledge

The medical profession today is attempting to form some organized method for supplying newspapers with material and yet preventing injustice through the overadvertisement of individual physicians, and through the furnishing of details concerning the personal lives of patients which the public should not have The medical education of the public is the one certain method of overcoming the evils of quackery of cultism, and of medical fraud

President Phillips I feel that I should state the reason why I am obliged to withdraw at this time Just before I left New York news came to me of the death of a very dear brother, and I can only reach his home to attend his funeral by leaving at this time

Dr E B Heckel, chairman of the Board of Trustees of the American Medical Association, took the Chair

DISCUSSION ON PAPERS OF DR NICOLL, MR ROUTZAHN AND DR FISHBEIN

Mrs W B Maloney, Editor, New York *Herald Tribune* Magazine, New York For a great many years I have believed that the people who knew committed a cardinal sin by not giving their knowledge to the world I believe that knowledge is without influence until it is given to the public It is without power until the public accepts it You can only make the public accept it by using all the agencies which reach the people, and chief among these is the daily press Seven million dollars worth of newspaper is used every Sunday in the United States, and I do not believe the public health work receives its full share of that $7,000,000 It is necessary to teach the scientific man and the highly professional groups how to reach the public The editor is not entirely to blame In my time, which has been a long time, I have seen newspapers break down their prejudices against health news I have seen a cancer item printed on the first page of a newspaper Ten years ago you couldn't get any newspaper to publish the fact that anybody in the world had died of cancer The rule of most newspapers was never to use the word it is still a rule *in some offices never to use it on the first page*, *it is also the* rule with some monthly magazines That has been largely overcome Something has been said today about preventive medicine without cost, curative medicine at cost I happen to have had to work my way through college because my father was a doctor who didn't collect his bills I think most doctors have large non paying practice I have known Dr Wood to work all night long on somebody who didn't have a dollar in the world I have known Dr Brooks to forego a $500 consultation fee in order to attend a man who didn't have a penny to pay him I think that if there is any purpose in this meeting at all, it is to wipe out all those little prejudices those little feelings that give us patent leather hides There is too much work to be done, nobody has any time to be personal Editors are sometimes wrong and they can stand being corrected, doctors are wrong sometimes and they must be willing to be told so That also applies to public health workers and social workers Recently, with the aid of the American Medical Association I put through a campaign to educate the public on "girth" control I did that because it was possible by putting out the article to get 20 000 letters from women who wanted to know if they could live on lamb chops and grapefruit There were no means of proper scientific control and education until the newspapers were used by the people who had the accurate information to give It has been a very difficult thing to make some of the professional people believe that it is a legitimate thing to do It is not only legitimate but an obligation if you really believe in preventive medicine or curative medicine

Dr James A Tobey, New York The suggestion made by Mr Routzahn for a committee to attempt to set specifications and standards seems to me well meriting a serious follow up Five years or so ago the *American Journal of Public Health* carried a significant editorial entitled "Pamphleteering and Public Health ' in which an endeavor was made to show there were somewhat too many pamphlets in this field The United States government alone has between 1,200 and 1 500 separate and distinct pamphlets on public health subjects If you want to know about milk you can get literature on this topic from the United States Public Health Service the Department of Agriculture the United States Children's Bureau or the United States Bureau of Education and you can obtain many different pamphlets on that subject and this fact is also true of other subjects When you go outside of the national government and approach the voluntary agencies or the states and the cities it almost staggers comprehension to learn how many pamphlets there are I strongly advocate that this unduly copious supply be reduced and standardized As Dr Fishbein has well said more attention should be given to newspaper publicity which after all is by far the best type in public health work

Dr Herman N Bundesen Health Commissioner, Chicago I feel that probably one of the greatest single successes of the Chicago department of health has been the issuance of health literature in a way really to reach the people Dr Nicoll wanted to know how much we spent last year for publicity in the department of health of Chicago *The bill for bulletins a* publications alone was $146,000. Several speakers here have said that their health department appropriations are only $10,000 or $12,000. I might say that the appropriation for the health literature last year in Chicago was $6,250. We had to raise the $140,000 outside the health department. All our large publications have passed through the hands of Dr. Fishbein of the American Medical Association, and have been censored as to their accuracy. The matter of raising the money by subscription isn't a hard job when one gets the confidence of the people. We got out the baby book, of which there have now been issued a little over 5,000,000 copies in eighteen months. We also got out a booklet on prenatal care. This publication has been able to reach more than 100,000 mothers in the city. We try to distribute the book to every pregnant woman. It is a seventy-two page booklet on the subject "Before the Baby Comes." To print that booklet cost something like $17,500 for the first 100,000 copies. Samuel Insull is a great public utility advertising genius. Insull, William Wrigley, John R. Thompson, John Hertz, the Yellow Taxi man, and people of that kind are the ones who have financed all our publications. We are absolutely convinced it pays to advertise, no matter what commodity is advertised. Why did they sell so much Peruna? Because there was any value to it? Why did they sell so many Lydia Pinkham's pink pills? Why do they sell millions of dollars worth of the food Postum Cereal? Who doesn't want red cheeks? Who doesn't want sparkling eyes? How are they going to get information about these things? From the breakfast food manufacturers until health officers use better tactics to put over health information in the same way,—the way the public needs it. People are interested in just that kind of publicity. It may not work in other places, but it was worked in the city of Chicago. From a publicity point of view we have been able to sell health to the people not only in booklets, but also through the newspapers. The newspapers have been very kind to the Chicago department of health.

The point I am driving at is that you can sell public health. I have been asked what I thought made the bulletin of the health department popular. Who writes it? I write that bulletin myself, and not one issue ever goes out that isn't read to Laura Belle, one of my six youngsters. When she gets something she doesn't understand, we try to rephrase it in language she can understand. This puts it over with the great mass of people. Maybe people do not lack intelligence, but who wants to come home, tired out, and read a lot of small type? Nobody likes to do that. Public health can be sold just as anything else can be sold. The methods are those of the men who are writing advertisements, who are being paid fabulous sums to write ads that put things over. If any of you are not getting the bulletin of the Chicago Department of Health we will be glad to send it to you. If you will look over the illustrations you will see that every one of them, or at least the vast majority, are based on some ads; that is, the ideas are based on ads. I think that you also can sell public health. But it must be sold in a simple way. I think that some of the finest literature in respect to simplicity is the magazine *Hygeia*. If we could get *Hygeia* into every home in Chicago we wouldn't have to worry about cancer fakes or various quackeries. The thing that we must do is to give the people the material in a way so that they will take it, and the way to do that for the general public at large is by simple language, well illustrated. Ask the people who are editing the bulletins whether they are editing it for the doctors or the lay people. Build up the bulletin to the group that you are trying to reach. We in Chicago are trying to build up our bulletin to educate the people of the city. I might say there is hardly a week, hardly a Monday morning, when our bulletin is released that all the five newspapers don't carry from a quarter of a column to a whole column of health matter. When you can get a circulation of millions then you can do something.

March 25

Chairman Heckel: One paper which should have been presented yesterday we will be glad to listen to now.

Relation of Voluntary Health Agency to Physicians and Health Departments

Dr. Linsly R. Williams, New York.

This paper is published in full in this issue of The Journal.

DISCUSSION

Dr. George M. Fisher, President, Medical Society of the State of New York, Utica, N. Y.: I am going to offer a resolution:

Whereas, It is the common idea of all physicians that the health organizations and physicians should work together; therefore be it

Resolved, That the American Medical Association be requested (we can't say what they will do because they are an independent organization) to appoint a committee to work in conjunction with said committee from lay organizations and report at one of their annual sessions, probably next year.

I make that motion and resolution.

Dr. Olin West, Secretary and General Manager of the American Medical Association, Chicago: When invitations were forwarded to those who are participating in this conference, the statement was positively and definitely made that there would be no voting on any sort of a proposition.

Chairman Heckel: The Chair would like to state that the Board of Trustees of the American Medical Association has a standing committee that is always ready to consider any proposition by any organization to the American Medical Association. The standing committee first considers the proposition, whatever it may be, and then it is referred to the Board of Trustees, which takes the final action.

Dr. George Fisher: I would request that that resolution be referred to the Board of Trustees. Is that right, Dr. West?

Secretary West: I think the Board of Trustees will be very glad to consider it, Dr. Fisher.

The motion was seconded, put to a vote and carried.

Dr. W. S. Leathers, Professor of Preventive Medicine, Vanderbilt University School of Medicine, Nashville, Tenn.: I believe that mistakes are being made by certain voluntary agencies, and this is largely due to the fact that the principles which Dr. Williams enunciates are not being observed. Much improvement has occurred in recent years in effecting a better understanding between official and voluntary agencies and the medical profession, but there is still need for continued consideration of this matter. It is my purpose to relate an experience which seems to me better to illustrate what I mean than by discussing in an abstract way the problems involved. In the state from which I come, a fight is on for the establishment of a sanatorium for the care and treatment of tuberculous persons. About two years ago the legislature passed a law requesting the governor to appoint a commission to study the control of tuberculosis in Tennessee and make recommendations with reference to it to the legislature two years hence. This commission is composed of eleven persons. The state health officer is chairman. It is felt by the commission at this time that it would be a mistake to appropriate money for a sanatorium. The secretary of the Tennessee Tuberculosis Association prepared a bill which was introduced into the legislature asking that about one-half million dollars be appropriated for the building of three sanatoriums in the respective subdivisions of the state. This bill was drafted without the knowledge of the state health commissioner and introduced into the legislature without conference with him. Obviously, this procedure was calculated to weaken the administrative position of the state health officer in projecting a program which in his judgment is wise and proper. A representative of the National Tuberculosis Association has been active in promoting the campaign for the establishment of a state sanatorium. In view of the fact that the commission for tuberculosis control, of which the commissioner of health is chairman, does not favor at this time sanatorium development, this has the effect of opposing the program of the state department of health. While it may not be the intention of most of those interested in the sanatorium to weaken the administrative position of the state health commission, it will without question have that effect in the event that the advocates of the sanatorium are successful. When it is maintained before the citizens of a state that the plan or policy of a state health department is not sound, especially when it concerns a big problem, as providing institutional care for the tuberculous, it can only result detrimentally to the interests of the official health agency. It appears to me that an agency which pursues a course that is antagonistic to the policy of the state health department, in view of the circumstances related, is following an unsound procedure It is not good from the standpoint of public health administration or from the standpoint of the medical profession I may say that the State Medical Association of Tennessee, through its secretary, supported the program advocated by the tuberculosis commission, and a large percentage of the physicians of Tennessee are behind and in accord with the policy I believe that a voluntary agency which has its headquarters in a distant city and is honestly endeavoring to relate its work to local conditions should invariably assume a judicious and constructive attitude with reference to the state or local department of health It is true that a state tuberculosis association is somewhat autonomous, but the situation has been aggravated by advice and activity at headquarters The man on the ground can usually handle problems of this kind fairly well if given an opportunity, and any advice or direction that tends to bring about disagreement and discord locally is most unfortunate

Dr Samuel W Welch, Chairman, Alabama State Board of Censors and State Health Officer, Montgomery, Ala I want to endorse everything that Dr Leathers has said The paper which has just been read is sound in theory and in pronouncement The difficulty is that that line of procedure which has been outlined in the paper is not followed in the rural states It is not a sound policy for any volunteer agency to formulate a policy outside the state without knowing the conditions that exist in the rural district and undertaking to apply methods applicable to urban life to the rural district without regard to the opinions, the knowledge of the man on the ground in the rural district We are students of conditions as they are, and after we have worked out our programs, volunteer organizations ought to come in and strengthen our hands and help us develop those programs and help us to grow with our people, make us strong with our own folks Any agency that interferes with the leadership of the board of health in the state is bad, it is rotten, it is doing a great deal more harm than it is doing good A voluntary agency ought to realize that its highest obligation is to build permanently a governmental agency and subordinate itself to the leadership of that governmental agency It is making a serious mistake in the rural districts of this country. I am not discussing urban conditions I am talking about the rural South and the the rural West

Mr Homer Folks, State Charities Association, New York In New York State since 1914, when Dr Biggs became commissioner, the state health commission has always been the most active and dependable member of the executive committee of the voluntary agency In all these years we have never appeared in Albany on opposing sides of a question we have always been together The general principle and the practice in New York, which I can speak for is exactly 100 per cent in line with Dr Welch and Dr Leathers' suggestions

Secretary West I practiced medicine at one time for about twelve years, and for another twelve years I was engaged in public health work, all in the state of Tennessee I was health officer of that state for some time Tennessee is in reality three states The topographical conditions and many others make it impossible, even if the necessary money were available, to establish and maintain a hospital large enough to make it worth while to undertake to do it There are many other factors in the situation with which no man outside the state could be familiar The state health department does know the situation In the meantime, four fairly efficient county hospitals for the treatment of tuberculosis have been developed in Tennessee Based on my experience in the state, it is my opinion that the solution of the tuberculosis question will be found in the right kind of field work, the maintenance of proper educational work, and in the establishment, when feasible, of county or district hospitals I believe that the state board of health's position in this matter is right I believe for a volunteer agency even though it maintains representation in the state, to undertake to foster another program than that which has been decided on by the official agency, with the advice and counsel of a commission composed of some of the best citizens of the state is bound to be harmful I believe that with respect to public health work the whole thing is an educational process We are dealing with problems beset with difficulties that are established by the inherent, inherited and fundamental ignorance, superstition and lack of knowledge on the part of the people, even the best of them There has been too much hurry, too much hurrah, and *sometimes too much stuff* has been put on paper that couldn't be demonstrated as being accomplished fact Another conviction I have is that any demonstration or any sort of an activity undertaken by a health department official, volunteer or anything else, that destroys the confidence of the public in its official agencies, if those official agencies are honestly striving to do their duty, have a definite program outlined and are working at it, does more harm than good I believe that any demonstration that goes into a community no matter who puts it on, that destroys the confidence of the community in its own medical profession does more harm than good I believe that a demonstration in a community that costs much more money than that community is able to provide, or that the community cannot take hold of and carry out after the demonstration is gone, and those that have the money are gone, does more harm than good No public health movement of any kind is going to succeed, finally and definitely, that does *not take the medical profession into* the confidence of its promoters and does not make the medical *profession an element of first consideration If the* profession is slow to take hold, if the profession is incompetent, then the job to be done is to build up the right sort of sentiment in the medical profession and among the public It can be done My judgment is that the medical profession as a whole is *just as much interested in promoting* public health as any body, just as willing to carry its end of the load and a little bit more than anybody else is willing to do But they are not willing to take hold of a thing and run away with it nor to be taken hold of and run away with If it takes longer to do the job, take longer to do it, and get more permanent results

Dr Linsly R Williams, National Tuberculosis Association, New York It is quite clear that the health department and the health officer should take the leadership in all types of health work A certain *number of health officers of states* come to me and say, 'Why don't you fire your agent out there?' Our state associations are entirely autonomous, they are self perpetuating bodies with boards of directors elected by membership and their boards of directors choose the executive officer I have nothing to do with his selection It is true that it is possible to bring a great deal of pressure *to bear to see that a secretary is removed* but *only* under grave situations These relationships almost always get down to the personality of two individuals I haven t been able to solve certain differences I have urged a number of secretaries to resign but they have told me they were going to fight it out I can t fire them The voluntary agency should aid in promoting the activities of the state health departments I am wholly *in* accord *in the question of always being sub*ordinate to the health official I believe that they would be subordinate if the health officer always took the leadership if the health officer were always an important member of the executive committee of the voluntary agency *If* a little more effort is made by health officials to secure the support of the voluntary agency, we can go a bit further *But* any group of individuals has the right to criticize a *governmental* authority I think I have sensed in one or two health officials a feeling that they are above criticism or suggestion On the other hand, we get a great deal more progress by sitting down at the same table and talking things over Let s have more frequent conferences Let us agree so far as we can let us compromise, and try to push on the work together The question *has been raised that we should not go forward* with health activities unless we know that we can receive the financial support from them A great many of us have been seeking in vain to find out how much a given community can afford to pay for health work Some of the counties have recently put forward a little slogan for their health campaign, "Give us a mile of road" when they were putting in several *hundred miles in the* country They can afford the hundred miles of road but they can't afford a decent little health department for a county I should like to know what the formula is as to how much the people can pay

(To be continued)

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest such as relate to society activities, new hospitals, education, public health, etc)

ALABAMA

Bills Introduced.—Senate bill No 170 would authorize and regulate the practice of chiropractic, and provide for establishing a board of chiropractic examiners Senate bill No. 256 and house bill No 467 repeal the sections of the code relative to the reports of births and deaths by physicians and midwives House bill No 395 would repeal the workmen's compensation act

CALIFORNIA

Placement Bureau.—The placement bureau maintained in the office of the secretary of the California Medical Association, San Francisco, during 1926, successfully placed thirty-five physicians and ten nurses and stenographers.

Changes in Health Officers.—Dr Frank G Crandall has been appointed health officer of Santa Barbara County; Dr Benjamin F. Saylor has succeeded Dr Earnest Dozier as health officer of Shasta County, and Dr Richard Stewart Hiatt has been appointed city health officer of Ceres.

University News.—Thirty-seven graduates in medicine enrolled for the summer course in the University of California Medical School, San Francisco, which opened, June 6, and closed, July 2, twenty-one were from California, four from Idaho, three each from Washington and Oregon, two each from Utah and Arizona, and one each from New Mexico and Nevada——The National Research Council, New York, has awarded a grant of $15,880 to the University of California to support investigations being made by Dr Herbert M Evans, chairman, department of anatomy, with particular reference to the relation of nutrition to fertility and the relation of the endocrine glands.

Society News.—Dr. Harry Spiro, San Francisco, addressed the San Joaquin County Medical Society, June 2, on "Heart Disease"——Dr John V Barrow, Los Angeles, addressed the San Diego County Medical Society, June 14, on "Morbid Changes in Amebeans"——The San Bernardino County Medical Society conducted a symposium on common infections of the upper respiratory tract, May 3, the speakers were Drs. Lenore D Campbell, Gayle G Moseley, Charles A. Wylie William W Savage, Carlos G Hilliard and Kenneth L Dole. ——The Los Angeles Orthopedic Club was host to members of the American Orthopedic Association during the annual meeting in Yosemite Valley, June 13-17, housing the entire party at the Huntington Hotel as their guests; there was a dry clinic, Friday afternoon, June 10, a banquet, Friday evening, a trip to Hollywood, Saturday morning, and a luncheon, Saturday evening before the party left for Camp Curry. The party went to San Francisco the following Friday night, where a dinner was held at the new home of the San Francisco County Medical Society, following a dry clinic, Saturday, there was a sightseeing trip, a dinner in Chinatown and a theater party The party disbanded, June 19.

CONNECTICUT

Diploma Mill Echoes—Slabotsky, McCubbin and Munch.—Further testimony at the rehearing, in New Haven, of the eleven eclectics whose licenses were revoked as a result of the diploma mill investigation indicated that Dr. Samuel M. McCubbin, formerly secretary-treasurer of the Eclectic Medical University, Kansas City, had issued seven or eight degrees at $10 each to Dr George Munch, then secretary of the Florida Eclectic Examining Board and now serving in the penitentiary for using the mails to defraud in connection with illegal medical diplomas McCubbin testified, it is reported, that some of these degrees were honorary while others were not so labeled, and that neither Munch nor those who finally received the degrees ever attended the Eclectic Medical University of Kansas City. Some of the "graduates" of this school later went to Florida to take the state examination before the eclectic board Dr. Samuel Slabotsky is reported to have testified that he had attended the Eclectic Medical University three years previous to the World War and, on receiving his discharge in 1919 from the army, went to the Kansas City College of Medicine and Surgery after learning that the Eclectic Medical University had closed; before leaving for an embarkation camp in 1917, he received two diplomas from the Eclectic Medical University and these were introduced in evidence at the rehearing. Nothing was brought out in the testimony at this time as to why there should have been two diplomas.

GEORGIA

Personal.—Dr. Stewart R. Roberts has been appointed in charge of the free heart clinic for white patients who are unable to pay at Wesley Memorial Hospital, Atlanta, under the auspices of Emory University School of Medicine.——Dr. Frank K. Boland has been elected president of the University of Georgia Alumni Society.——Dr. Robert F. Wheat, Bainbridge, has been appointed a member of the state board of medical examiners.

Summer Clinics.—Emory University School of Medicine, Atlanta, will offer again, from July 9 to July 23, a series of summer clinics daily except Saturday and Sunday. Work will be in the form of a presentation of cases and of talks on recent aids to diagnosis and the newer forms of treatment in internal medicine, general medicine, gynecology, pediatrics, obstetrics, orthopedics, genito-urinary diseases and diseases of the eye, ear, nose and throat. Clinics will be held at the Wesley Memorial Hospital and the Emory University Division of Grady Hospital on alternate days.

Society News.—Dr. Theodore Toepel, Atlanta, addressed the Fulton County Medical Society, June 2, on "Nutrition and Growth in School Children" and Drs. James E. Paullin, Jr, "Bowcock and Wood" on "Hypertension and Its Complications."——Dr. Joseph Yampolsky, Atlanta, has been elected president of the Georgia Pediatric Society, and Dr. William N Adkins, Atlanta, secretary.——Dr. Charles J. Jenkins, Edison, was elected president of the second District Medical Society, May 8——Dr. Frank K. Boland read a paper before the Fulton County Medical Society, Atlanta, June 16, on "Abscess of the Lung"; Dr. Carl C. Aven gave a clinical talk on "Physical Signs in Heart Disease."——Dr. McIntosh M. Burns has been elected a member of the board of education of the city of Atlanta.

ILLINOIS

Fiftieth Anniversary of State Department.—The Illinois State Health Department was organized fifty years ago, July 1. During that period, the life expectancy of the average child born in the state has increased at least fourteen years, according to the editor of *Illinois Health News*, and the expenditures for public health work in Illinois have increased from about $10,000 to $500,000 a year. Another great change in the half century has been the increase in heart disease, which now is ahead of tuberculosis in the mortality column, whereas fifty years ago it was fourth or fifth.

Personal.—Dr. Clarence T. Roome is moving to Santa Barbara, Calif., it is reported, to engage in the practice of medicine; Dr. Roome was health commissioner of Evanston for about fifteen years——Dr. Harry Olin, St. Louis, has been appointed radiologist to St. Elizabeth's Hospital, Danville, to succeed the late Dr. William H. Miner.——Dr. Walter C. Martini has resigned as medical director and superintendent of the Outlook Tuberculosis Sanatorium, Champaign, and will engage in work at Springfield——Dr. and Mrs John S. Allen, Keithsburg, celebrated their golden wedding anniversary, June 21.——Dr. Fred M. F. Meixner, Peoria, has been appointed an examiner of aviators by the U. S. Department of Commerce.

Chicago

Hospital News.—An oil painting of the late Dr. William E. Schroeder, chief of staff of Wesley Memorial Hospital, was unveiled at memorial services at Wesley Hospital in June.

Personal.—Dr. James G. Carr was elected president for the ensuing year of the Alumni Association of Northwestern University Medical School, and Dr. George K. Fenn secretary-treasurer.——Dr. Dallas B. Phemister was elected president for the ensuing year of the Alumni Association of Rush Medical College of the University of Chicago, and Dr. Charles A. Parker, secretary.——Dr. Frank L. Rector gave an address at the fifty-second annual meeting of the Alumni Association of the University of Buffalo, June 8, on "Relation of Industrial Medicine to the Private Practitioner."

Hospital Reorganized.—The president of the board of directors of the Washington Park Hospital writes that the staff and the board of directors of that institution have undergone reorganization, and that the name will be changed to the Washington Park Community Hospital as soon as the necessary legal steps can be effected. Among the directors now are Prof. Anton J. Carlson, Ph.D., University of Chicago, and Dr. Arthur C. Kleutgen; the other members of the board of directors are business men. Dr. Francis P. Hammond has been made president of the staff and chief of the surgical division, and Dr. Roy R. Jamieson, chairman of the medical section of the staff.

University News.—The total attendance at Rush Medical College (University of Chicago) for the spring quarter was 260, exclusive of those registered for medical instruction in the south side departments——Subscriptions from 101 contributors for the clinic of internal medicine named in honor of Dr. Frank Billings in the new hospital building on the Midway totaled nearly a quarter of a million dollars, the president of the university announced at the June convocation. An anonymous donor has placed in the hands of President Max Mason the sum of $15,000 for gifts or loans to members of the University of Chicago, active or retired, in times of peculiar need. The University of Chicago has the assurance of funds for an endowment of the departments of obstetrics and gynecology in the new Chicago Lying-in Hospital to be erected at the university; actual operations on this program of development, President Mason said, will be under way by January, 1929.

Dr. Crane Expelled.—The *Bulletin of the Chicago Medical Society*, June 18, reports that Dr. Milo A. Crane of Elmhurst, charged with unethical conduct, has been expelled from membership Dr. Crane has for some time been advertising in *Physical Culture* an alleged course in "drugless healing" on the correspondence plan, granting "special diplomas" on the completion of the "course." The advertisements appeared under the trade name, "Crane Sanitarium, Department of Schools, Elmhurst, Ill." The Crane Sanitarium was also advertised in *Physical Culture* as being "operated by Drs. Crane and Burkhardt, specialists in obstinate and chronic diseases" Presumably as a drawing card, the advertisement adds that one of these men (it is not clear which) was for "many years house and examining physician for Bernarr Macfadden." According to our records, Milo A Crane was born in 1874, received his medical diploma in 1907 from the Detroit College of Medicine and Surgery, and was licensed in Michigan the same year, and in Illinois two years later.

INDIANA

Personal.—Dr. Sylvester I Arthur, Princeton, has been appointed health officer to succeed the late Dr Robert A Cushman——Dr. James Frank Dinnen, Fort Wayne, has been appointed chief surgeon of the Erie Railroad System with headquarters at Cleveland; Dr. Dinnen, for the last ten years, has been assistant chief surgeon of the Nickel Plate Railroad.——Dr. Weir M. Miley, Anderson, has been appointed a member of the board of trustees of the city schools——Dr. and Mrs. Boston H. B. Grayston, Huntington, celebrated their golden wedding anniversary, June 19——Dr. Charles H. Keever, Indianapolis, has been appointed coroner of Marion County to succeed Dr. Paul F. Robinson, who was killed in an automobile accident a few days ago

Another Diploma Mill Exposed.—Following an exposé of the "College of Drugless Physicians" of Indianapolis, by the Indianapolis *News*, Otis J Briggs, dean of the school, was arrested, June 25, on a charge of conspiracy to commit a felony in connection with the issuance of fraudulent diplomas Briggs eventually confessed that he had issued twenty-one fraudulent diplomas for doctors of naturopathy He filed sixteen applications for licenses recently with the state board of medical registration and examination, presenting to the board some diplomas which were dated back so the applicants could be licensed without examination. An amendment to the state medical practice act requires all persons entering practice after Jan 1, 1927, to pass an examination before being licensed According to Briggs' confession, the following persons were granted diplomas by the College of Drugless Physicians, March 29, 1927, which diplomas were dated back to Dec 15, 1926

Hiram C. Hoskins, 1912 Highland Place, Indianapolis
H. Smith Dulin, 603 North Senate Avenue, Indianapolis
Francis G Cox, 1912 Highland Place, Indianapolis
Robert O. Pettiford, 603 North Senate Avenue, Indianapolis
Otto Adams, 603 North Senate Avenue, Indianapolis
Charles R Parker, 710 North West Street, Indianapolis
May Dulin, 603 North Senate Avenue, Indianapolis
Marie Fleece Morris, Anderson, Ind

Others to whom Briggs granted diplomas that were dated back were Wilby Gwynn, John Hill, Greenfield, Ind , Fritz Laderhaus; Henrietta Sing, and a man named Chapman from Huntington, Ind Briggs' undoing came when a reporter for the Indianapolis *News* applied for enrolment in the "College of Drugless Physicians," June 18 In a few hours, the reporter, Walter A Shead under the name of Alfred Alonzo Shedd, emerged from Briggs' office with a degree of doctor of naturopathy dated back to Nov. 23, 1926, for which he paid about $110, although he had no medical training whatever. The activities of the College of Drugless Physicians of Indianapolis will be laid before the grand jury which convened, July 5, and a complete investigation of its ramifications probably will be made. Briggs is a chiropractor, it appears, with degrees from various drugless schools He is the founder and president of the American Drugless Association and from time to time, has been connected with the Central Scientific College, the New Era Physio-Medical College, the American Occult College and the Indiana Chiropractic College.

IOWA

Anesthetists Resign.—Four members of the staff of anesthetists of the State University of Iowa College of Medicine, Iowa City, resigned, July 1, it is reported. Those who resigned were Drs. Louis W. Harding, Elam E. Lashbrook, Mary Ross and Forrest P. Cartwright

Personal.—Dr Charles Palen has been appointed president of the staff of Mercy Hospital, Dubuque——Dr. Grant J. Ross, Sioux City, celebrated his eighty-fifth birthday, recently.——Dr Arthur L Bryan has been reelected health officer of Muscatine——Dr Henry C Young, Bloomfield, was elected president of the Des Moines Valley Medical Association at the fifty-fourth annual meeting in Ottumwa, June 21

Society News.—The Austin Flint-Cedar Valley Medical Society will meet, July 12-13, at Cedar Falls——Dr Eleanor M Hutchinson resigned as president of the Calhoun County Medical Society following her acceptance of a position at the new federal reformatory for women, Washington, D C——The Upper Des Moines Medical Society was the guest of the Palo Alto County Medical Society, recently, at Emmetsburg; clinics were held at the Park Hospital Clinic by several physicians from Mason City Seventeen patients were present, the histories, and physical and laboratory data having been previously prepared by members of the Palo Alto County Medical Society During the evening, the ladies attended the theater

KANSAS

Bill Introduced.—House bill No. 738 defines homeopathy, establishes qualifications of homeopaths, and provides for examinations of applicants and the issuance of certificates.

Hospital News.—Dr Jabez N. Jackson, Kansas City, President of the American Medical Association, gave the address at the dedication of the new building of Christ's Hospital, Topeka, May 30——The Southwest Protestant Hospital Association is constructing a $50,000 hospital at Dodge City, which, when completed, in about eight months, will be turned over to the Christian Church.

Personal.—Dr Joseph E Hawley will celebrate the completion of fifty years in the practice of medicine in Burr Oak, July 11, an invitation is extended to the public, especially the old settlers and the physicians; there will be music by the Burr Oak Band, singing and speeches——Dr Frank M. Wiley celebrated the completion of fifty years in the practice of medicine in Fredonia, June 17 The celebration was attended by almost every member of the Wilson County Medical Society.

University News.—The recent legislature appropriated $300,000 for the erection of new buildings for the University of Kansas School of Medicine, Kansas City, $200,000 being for an additional ward unit, and $100,000 for a new nurses' home A research fellowship for the study of hypertension under the supervision of Dr Ralph H Major was recently given to the school of medicine by Eli Lilly and Company, Indianapolis; the fellowship amounts to $1,800 a year, and Mrs Vera Johnsmeyer Jones has been appointed fellow.

Society News.—Dr. Damon O. Walthall, instructor of pediatrics, University of Kansas School of Medicine, gave a demonstration before the Jackson County Medical Society, recently, on "Scrotal Tumor in the New-Born," and Dr. Joseph B Cowherd on "Enlarged Thymus in the New-Born."——Dr Richard L Sutton, professor of dermatology, University of Kansas School of Medicine, held a clinic for the Pettis County Medical Society, Sedalia, April 21.——Dr Clinton C. Fuller, Norton, has been appointed head of the full-time health department for Cherokee County, effective, July 1.

KENTUCKY

Personal—Dr Judd E Hammond, Lexington, has been appointed medical examiner for the aeronautics branch of the U S Department of Commerce——Dr John C Morrison, Hickman, has been appointed health officer of Paducah, effective, August 1, to succeed Dr Francis M Munson, who resigned several months ago

Graves County Barbecue.—The Graves County Medical Society and the auxiliary held a barbecue at Sedalia, June 16 following which there was a scientific program, comprising addresses by Dr John H Shelton, Mayfield, on "Puerperal Eclampsia', Dr Frank Boyd, Paducah, on 'Fractures,' and Drs Edwin A Stevens, Harland V Usher and John F. Kirksey

Statue of Ephraim McDowell—The state of Kentucky has selected Dr Ephraim McDowell as one of the two representatives of the state whose statues are to be placed in the National Hall of Statuary in the Capitol Building, Washington, D C Dr McDowell died in 1830 his grave in Danville is marked with a beautiful shaft provided by the Kentucky State Medical Association The other statue to be placed in the National Capitol will be that of Henry Clay The statues will be donated to the state by Mr Isaac W. Bernheim of Cincinnati

MARYLAND

Gift for Children's Ward.—Mrs Henry Barton Jacobs has given $75,000 for a children's unit of the Eudowood Sanatorium which will be for free patients The two story structure, which will be started soon, will be ready for occupancy in the fall

Drs. Bloodgood and Baer Appointed Professors—Dr Joseph C Bloodgood, formerly associate professor of clinical surgery, has been appointed professor of clinical surgery at Johns Hopkins University School of Medicine, and Dr William P Baer, formerly associate professor of clinical orthopedic surgery, has been appointed professor of clinical orthopedic surgery

Baltimore's Ambulance Service—The new ambulance service of the city of Baltimore, placed under the control of the fire department against the advice of the Baltimore City Medical Society and the West Baltimore Medical Society, has been installed and the city divided into five zones, in each of which hospitals have been named to which patients are to be taken Dr Frank N Ogden will supervise the service, twenty firemen have been detailed for duty as orderlies and chauffeurs (The Journal, May 21, p 1648, June 4, p 1819)

MICHIGAN

Personal—Dr Walter C Reineking has been appointed superintendent of Grand View Hospital, Ironwood, to succeed Dr Merlin H Draper——Dr Theophile Raphael, assistant professor of psychiatry, University of Michigan Medical School, Ann Arbor, has been appointed director of the psychiatric clinic in the Recorder's Court, Detroit, to succeed the late Dr Arnold L Jacoby——Dr Charles H Mayo, Rochester, Minn, gave the commencement address at the Detroit College of Medicine and Surgery, his subject was 'Changing Medicine'

State Medical Election—At the annual meeting of the Michigan State Medical Society, Mackinac Island, June 14-17, Dr Herbert E Randall Flint, was elected president, Drs Colin D Munro, Jackson, Charles F DuBois, Alma, Duncan A Cameron, Alpena, and Abram L Van Horn, Otsego, vice presidents, and Dr Carl F Moll, Flint, was elected delegate to the American Medical Association Dr Frederick C Warnshuis, 1508 Grand Rapids National Bank Building, Grand Rapids, is the secretary-editor. The next annual meeting will be held in Detroit

Abortionist Heinl Sent to Penitentiary.—Fred C Heinl, recently convicted at Grand Rapids of manslaughter, was sentenced, June 30, to imprisonment in the state penitentiary for a term of from ten to fifteen years Heinl, an abortionist from Chicago, performed an illegal operation resulting in the death of a young woman The Journal, in May, 1926, called to the attention of the Illinois Department of Registration and Education Heinl's alleged abortion activities carried on from his Chicago address Heinl, who was not a graduate in medicine drummed up trade in Chicago by offering to split fees with druggists who would put him in touch with women who wanted work of this sort done

Policy on Free Clinics—The Kent County Medical Society adopted a resolution, recently, outlining its policy with regard to free clinics as follows:

1 The Kent County Medical Society through its members stands ready at all times to give free medical services to the needy Their interpretation of the "needy" shall be not only the paupers but also those individuals who in the opinion of a trained social worker are worthy of that service

2 The Kent County Medical Society shall have through its committee on clinics a representative on the staff of every organization giving free clinic service So far as possible this representative shall be chosen from such of its members who are at the time serving on clinics

3 The president shall appoint at the beginning of his administration a committee of three to be known as the standing committee on clinics. This committee shall designate its representative on the various clinics These representatives together with the committee appointed by the president shall be known as the conference committee on clinics

4 We recommend, first, that clinics giving free service shall have a trained social investigator, and second, that the records of their investigations shall be accessible to this committee at all times

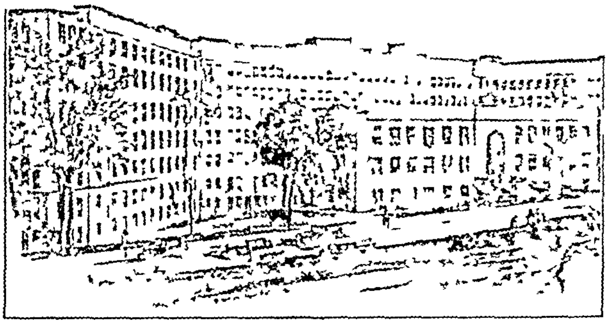
5 This committee shall report from time to time the result of its investigations and make its recommendations to the society

6 The Kent County Medical Society is opposed to the plan that any patient of a free clinic shall pay more than a simple initial fee not to exceed 50 cents and not more than 20 per cent above cost of drugs and supplies

7 The Kent County Medical Society is opposed to the acceptance by its members of any fee for attendance on free clinics conducted on the plan as outlined in this report

8 Realizing the difficulty of establishing an economic standard for free service the committee shall stand ready to cooperate with the social workers in arriving at an equitable and proper solution of these problems

The New University Hospital.—The new building of 700 beds, the old buildings converted into convalescent units with 300 beds, and the contagious unit with fifty beds place the University Hospital at the University of Michigan, Ann Arbor, among the large hospitals of the country The new building is nine stories, concrete, finished in gray brick and stone, and built on the Y and T plan, each room having outside exposure There are 2 miles of corridors and 10 acres of floor space It is a monument to the people of the state, designed and equipped to care for the sick and to teach scientific medicine The first floor is devoted entirely to clinics and clinical service, the south wing of the third floor is for living quarters for about sixty interns The east and west wings of the sixth floor are to be used as wards for children The seventh floor provides a roof garden and occupational therapy storage rooms, and a beautiful view of the Huron River Valley There are amphitheaters and auditoriums, lecture rooms, special laboratories, lounging rooms for visiting physicians and others for students, isolation units, dispensaries, shops and, it appears from the description, all the other accessories and equipment necessary to make the hospital a great center for the care of the sick and the teaching of medicine



MINNESOTA

Society News—The Minnesota Neurological Society met in Rochester, June 11; there was a surgical clinic, five papers were presented by local physicians and an address was given by Dr Monrad-Krohn, professor of neurology, University of Oslo Norway

Personal—Dr Herbert E Chamberlain, White Plains, N Y, has been appointed director of the child guidance clinic of Minneapolis to succeed Dr Smiley Blanton, who resigned to accept a position at Vassar College——The governor has recently appointed Drs Edward W Fahey, St Paul, Howard R Weirck, Hibbing, and William H. Barr, Wells, new members of the state board of health——Dr Alvah W Jones has been appointed health officer of Red Wing to succeed Dr Myron W Smith——Dr Grace G Smith has been elected president of the board of education of Red Wing——Dr James J Swendson has been elected president of the Lions Club of St Paul——Dr Leo G Rigler, Minneapolis, has been appointed roentgenologist at the state university hospital——Dr Rhodric W Browne, who has been charge of the Aberdeen Hospital, St. Paul, has been appointed head of the U. S. Veterans' Bureau Hospital, Fort Bayard, New Mexico

MONTANA

Personal.—Dr. Curtis W. Wilder, Lewiston, has been appointed health officer to succeed the late Dr. Thomas H. Pleasants.——Fred D. Stimpert has been appointed director of the state hygienic laboratory at Helena; Mr. Stimpert formerly was instructor of biology at the University of Montana, Missoula.

NEW HAMPSHIRE

Society News.—Dr. George S. Hazard, Hollis, was elected president of the Hillsboro County Medical Society, April 26; Dr. Alfonse W. Petit, Nashua, vice president, and Dr. Deering G. Smith, Nashua, secretary-treasurer.

State Medical Election.—At the one hundred and thirty-sixth annual meeting of the New Hampshire Medical Society, New Castle, June 22-23, Dr. Emery M. Fitch, Claremont, was elected president; Dr. Joseph J. Cobb, Berlin, vice president, and Dr. Dennis E. Sullivan, Concord, secretary-treasurer Dr. Sullivan was chosen delegate to the American Medical Association. At the annual banquet, Dr. Ezra A. Jones was toastmaster. Among the scientific papers was one by Dr Orrin S. Wightman, New York, and a symposium by Drs. Harlow Brooks and John F. Erdmann, New York, and by Drs Adelbert S. Merrill, Manchester, Howard N. Kingsford, Hanover, and James W. Jameson, Concord. Mrs. Henry H Amsden, Concord, was elected president of the woman's auxiliary Mrs. John O. McReynolds, Dallas, Texas, president of the National Woman's Auxiliary, attended the meeting.

NEW MEXICO

Personal.—Dr. Howard W. Heymann, Raton, has been appointed part-time health officer of Colfax County, to succeed Dr. Augustus B. Stewart.——Dr. Albert J Hoskins, formerly commanding officer, U. S. Veterans' Hospital, Fort Bayard, has been transferred to Phoenix, Ariz.; Dr. Rhodric W. Browne, St. Paul, will take charge at Fort Bayard

Public Health Association.—The third annual meeting of the New Mexico Public Health Association was at Taos, June 2-3; among others, Dr. Meldrum K. Wylder, Albuquerque, spoke on "Breast Feeding of Infants" Dr Charles W. Gerber, Las Cruces, led a round table discussion on the control of German measles and chickenpox, and Dr. Cranford H. Douthirt, Clayton, one on cooperation with the medical profession, and Dr. Owen E. Puckett, Carlsbad, one on the medical examination of food and drug handlers. Dr. Dudley B. Williams, Santa Fe, discussed "Standardization of Record Forms for Full-Time County Health Units," and Dr. I. O. Church, "County Health Work in Kansas."

NEW YORK

Personal.—Dr. George H Whipple, dean and professor of pathology, University of Rochester School of Medicine and Dentistry, was awarded the honorary degree of doctor of science, recently, by Colgate University——Dr. Helen L. Palliser, Poughkeepsie, has been elected secretary of the Medical Women's National Association

Society News.—Dr. Harry R Trick, president-elect, Medical Society of the State of New York, was guest of honor at the annual meeting of the Genesee County Medical Society, Dansville, June 24——Members of the Medical Society of the County of Erie offered their fifth program of instruction on heart disease, June 9, at Alumni Hall, University of Buffalo, when among the papers read were those by Dr. John H Wyckoff, Jr., New York, and Dr. William D. Stroud, Philadelphia.

New York City

Dr. Mosher Honored.—Dr. Eliza M. Mosher, one of the earliest women graduates in medicine, turned the first spadeful of earth, June 18, for the new women's building, University of Michigan, Ann Arbor, for which the alumni have collected $1,000,000 in the last five years Dr Mosher was for years dean of the women students and the first full-time women professor on the faculty The hostess room in the women's building will be named in her honor.

Personal.—Dr. William F. Wild has resigned as field representative of the American Society for the Control of Cancer, and Dr. Raymond V. Brokaw, superintendent of health of Springfield, Ill, has been appointed to fill the vacancy——Dr. Frankwood E Williams received the honorary degree of doctor of science from Colgate University at the recent commencement.——Dr. Harlow Brooks has been appointed professor of internal medicine at the Polyclinic Medical School and Hospital.

Meeting of Orthodontists.—The Alumni Society of the Dewey School of Orthodontia will meet, August 29-31, at the Hotel Vanderbilt, for a series of clinics and lectures. Clinics will be given by several men from New York and from Nashville, Tenn Homer B. Robison, D D.S, Great Bend, Kan, will lecture on "Some Erroneous Diagnoses of Acromegaly" and "Endocrines—Their Effect on the Osseous, Genital and Mental Development in Relation to Orthodontics", other speakers will be Samuel E Pond, Ph D, University of Pennsylvania School of Medicine, Philadelphia, "Physical Consideration Concerning the Alleged Stability of Bone and Similar Structures", Moe B Markus, D D S, Philadelphia, "Review of the Literature on the Influence of Habits in Orthodontia"; Albert C Holzman, D.D S, Boston, "Orthodontia of Deciduous Teeth," and Russell E. Irish, D D S, Pittsburgh, "Mental Orthodontia—Its Stimulants and Depressants"

Changes in Personnel at Rockefeller Institute.—Among the changes in personnel of the scientific staff of the Rockefeller Institute for Medical Research are the following:

APPOINTMENTS

Dr Carl Ten Broeck, professor of bacteriology, Peking Union Medical College, Peking, China, member
Arthemy A Horvath, associate in chemistry in the department of medicine, Peking Union Medical College, Peking, China, associate.
Dr Mortimer L Anson, assistant.
Dr Allan M Butler, assistant
Dr Claude E Forkner, assistant.
Dr Alvin R Harnes, assistant.
Dr Perrin H Long, assistant
Dr Alfred E Mirsky, assistant.
Dr Gordon H. Scott, assistant

PROMOTIONS

Dr Thomas M Rivers, associate member to member.
Dr Carl A L Binger, associate to associate member.
Dr Leslie T Webster, associate to associate member.
Dr Lillian Baker, assistant to associate
Dr Lawrence S Kubie, assistant to associate.
Dr Fred W Stewart, assistant to associate

Robert T Hance, Ph D, has resigned to become professor of zoology, University of Pittsburgh, Pittsburgh

Two Brooklyn Hospitals Consolidate.—The Brooklyn Eye and Ear Hospital and the Williamsburg Hospital have consolidated after two years of consideration and will continue under the name of the Brooklyn Eye and Ear Hospital. There probably will be erected a seven story, fire-proof, $1,500,000 structure on Green Avenue extending the whole width of the block from Cumberland Street to Carlton Both hospitals were founded about fifty years ago, the Williamsburg Hospital was consolidated with the Eastern District Hospital and Dispensary in 1916 and it closed its doors in 1920 The Brooklyn Eye and Ear Hospital was organized in 1864 on the present site of the Brooklyn Post Office, but soon moved to larger quarters on Washington Street, now the site of the approach to the Brooklyn Bridge Since 1882, it has been at 94 Livingston Street and has averaged about 120,000 dispensary cases a year Several years ago it sold the building and purchased a site for a new home at Green, Cumberland and Carlton streets, where it is expected the consolidation of the two hospitals will make it possible to proceed with the building program of the Brooklyn Eye and Ear Hospital, which has been postponed on account of the rising cost of construction.

NORTH CAROLINA

Society News.—Dr James M Parrott, Kinston, addressed the Wake County Medical Society, Raleigh, June 9, on "Business Relations of the Medical Profession"——The seven sanitary experts and inspectors of the state board of health loaned to the flood refugee camps were recalled to their duties in North Carolina, June 15

Annual University Extension Courses.—The seventh annual summer courses of the extension division of the University of North Carolina School of Medicine is being given in the following centers: Wilmington, Fayetteville, Rocky Mount, Kinston, Greenville and Hamlet The lectures and clinics are in pediatrics and general medicine, each class meeting once a week for twelve weeks The instructor in pediatrics is Dr Alexis F Hartmann, St Louis, associate professor of pediatrics, Washington University Medical School, and the instructor in general medicine is Dr. Charles L Brown, instructor in medicine, Harvard University Medical School The program is arranged so as to permit physicians to attend the courses with the least amount of disturbance to their practice. The arrangement has proved unusually successful, and has come to be known and referred to in other states as the North Carolina Plan.

Hospital News.—The improvement to be made at the state hospital for colored insane, Goldsboro, included the replacement of the wooden building for tuberculosis cases with a fire-proof structure costing about $110,000.——Judge Sinclair, presiding at Kinston, in interpreting the report of the grand jury in regard to the insanitary conditions of county institutions, ordered the indictment of the responsible county officials unless the institutions were placed in sanitary condition at once.——The new Candler-Tidmarsh Hospital, Sylva, was opened for patients, May 20.——The new $100,000 Greensboro Hospital for Negroes was formally opened, May 24; half of the cost of the institution was donated by the family of the late Lunsford Richardson, the remainder being given by many citizens of the community. The roentgen-ray equipment, representing an investment of $7,800, was presented by Mrs. E. Sternberger. The hospital is complete and modern in every respect.——The Charlotte Hospital Association, organized, June 11, with Dr. Robert T. Ferguson, president, is composed of all the larger hospitals in Mecklenburg County. Quarterly meetings will be held.

NORTH DAKOTA

Society News.—At the annual meeting of the North Dakota Academy of Ophthalmology and Oto-Laryngology, Grand Forks, May 31, Dr. Rolfe Tainter, Fargo, was elected president to succeed Dr. Andrew M. Carr, Jr., Minot. The meeting included a banquet, and scientific and business sessions. The visiting clinician was Dr. Frank E. Burch, St. Paul.

PHILADELPHIA

University News.—The Woman's Medical College of Pennsylvania held its seventy-fifth annual commencement, June 9; degrees were given to fourteen graduates, six of whom will go to foreign medical missionary service after completing their internships.

Hospital News.—The assets of the old Roosevelt Hospital, which was sold in 1924, have been donated to Temple University, and will be devoted to the completion of the fourth floor of the Samaritan Hospital, the construction of rooms and the conversion of private rooms in the old building into public wards. The additional floor will be known as the Roosevelt Memorial floor of the Samaritan Hospital.

Annual Heart Demonstration.—A demonstration in cardiac diagnosis and treatment was given, May 23-26, by the Philadelphia Heart Association cooperating with the Pennsylvania Heart Association, which was practically identical with the two previous annual demonstrations. Thirty-three physicians from over the state attended, whereas the first one in 1925 had an attendance of fourteen and the second in 1926 of twenty-seven. The increased interest makes it desirable to continue the demonstrations each year, with the object of establishing heart clinics throughout the state where persons unable to afford competent care will be thoroughly studied. Demonstrations were made at the University of Pennsylvania and Temple University, at Jefferson Medical College, the Children's Heart Hospital and the Presbyterian Hospital by teachers well known in this line of work and were so arranged as to allow each person present to see at least one heart clinic in operation.

Personal.—Dr. Chevalier Jackson gave the address at the fifty-seventh commencement at Ursinus College, Collegeville, June 6. Dr. Jackson has presented the casket, gold medal and scroll, constituting part of the Bok Award recently received by him, to the College of Physicians of Philadelphia.——Dr. Orlando H. Petty was nominated without opposition for president of the Philadelphia County Medical Society, June 15, and his election will automatically follow in November.——Dr. Valentine R. Manning was guest of honor at a testimonial dinner at the Elks Club, June 15, attended by about 400 friends.——Dr. George E. de Schweinitz, Past President of the American Medical Association, received the honorary degree of doctor of science from Harvard University at the commencement, June 23.——Dr. Hobart A. Hare, professor of therapeutics, materia medica and diagnosis, Jefferson Medical College, was guest of honor at a dinner at the Schuylkill Country Club, Pottsville, June 14.

Firemen Honor Dr. Da Costa.—The firemen of Philadelphia have donated $2,000 to the building fund of Jefferson Medical College in honor of Dr. John Chalmers Da Costa, professor of surgery, Jefferson Medical College, who, for about thirty-five years, gratuitously served as surgeon of the fire bureau, surgeon of the Firemen's Pension Fund and in other capacities. A similar amount was contributed from the sheriff's office in honor of Dr. Da Costa and both funds will be used jointly to establish a memorial to him. It appears that Dr. Da Costa's devotion to the fire bureau is a family trait, as his grandfather was a member of the Northern Liberties Volunteer Fire Engine Company, his father a member of the Philadelphia Hose Company, and his uncle, a member of the Phoenix Hose Company. For about thirty-five years, Dr. Da Costa never failed to attend a fire of any importance in the city. The fund was given by the members of the department, many of whom he had attended at the scene of a fire. Physical disability compelled Dr. Da Costa to resign as surgeon of the Firemen's Pension Fund about seven years ago, although he still holds the position in an honorary capacity.

TENNESSEE

Health at Memphis.—Telegraphic reports to the U. S. Department of Commerce from sixty-seven cities with a total population of about 30 million, for the week ending June 25, indicate that the highest mortality rate (19.2) was for Memphis, and that the mortality rate for the group of cities as a whole was 11.2. The mortality rate for Memphis for the corresponding week last year was 25, as estimated by the arithmetical method, and for the group of cities, 11.2.

Malaria in Tennessee.—During 1926, there were 1,686 cases of malaria in the state, an increase, according to the Tennessee Department of Public Health, of 306 cases reported; in 1925 there were 159 deaths from malaria. Of the cases reported last year, 68.3 per cent were in West Tennessee. Six of the twenty counties in that portion of the state have whole-time health service. As the waters of the flood recede and the homes are rehabilitated in that section, the malaria problem will become more serious. The chief weapons of defense against malaria are quinine prophylaxis and the screening of carriers. One county in West Tennessee requested 21,000 capsules of quinine in a single order, and three counties have a standing order of a shipment of 32,100 capsules a week. The screening of carriers and general screening operations will be carried out with the cooperation of the U. S. Public Health Service officials.

WEST VIRGINIA

Hospital News.—Dr. Mortimer D. Cure has retired from the staff of the Weston State Hospital for the Insane at Weston and has been succeeded, temporarily, by Dr. John G. Pettit from the Hopemont Tuberculosis Sanatorium.

State Medical Election.—At the sixtieth annual meeting of the West Virginia State Medical Association, White Sulphur Springs, June 21-23, Dr. Charles A. Ray, Charleston, was elected president; Drs. Desausseur G. Preston, Lewisburg, Edward L. Armbrecht, Wheeling, and Walter C. Swann, Huntington, vice presidents, and Dr. Thomas M. Barber, Charleston, treasurer. The new executives take up their duties, Jan. 1, 1928. Mr. Joe W. Savage was reelected executive secretary of the association; Dr. James R. Bloss, Huntington, editor of the journal; Dr. Raymond H. Dunn, South Charleston, a chairman of the council; Dr. Henri P. Linsz, Wheeling, delegate to the American Medical Association. The members considered at this meeting a plan of erecting a permanent home for the society at Charleston and were of the opinion that in a few years the permanent headquarters would be established.

WISCONSIN

Personal.—Dr. John L. Yates, Milwaukee, was elected vice president of the American Association for Thoracic Surgery, New York, May 11.——Dr. Fred E. Tryon has been appointed health officer of Baraboo.

Society News.—Dr. George F. Dick, Chicago, addressed the Milwaukee Pediatric Society at the Milwaukee Children's Hospital, June 8, on "Scarlet Fever," and Dr. Karl E. Kassowitz, Milwaukee, on "Bactericidal Effect of Quartz Light."——Dr. Ralph W. Webster, clinical professor of medicine and medical jurisprudence, Rush Medical College, Chicago, addressed the Brown-Kewaunee County Medical Society, Green Bay, May 3, on "Malpractice."——Among other speakers before the Grant County Medical Society at Boscobel, May 10, were Drs. Edward W. Alton Ochsner, professor of surgery, University of Wisconsin Medical School, Madison, on "New and Simple Methods of Chest Diagnosis," and James H. Fowler, on "Relation of the Specialist to the General Practitioner." The society had dinner with the Boscobel

Kiwanis Club; at the election of officers, Dr. Charles S. Hayman was made president for the ensuing year.

Fifth District Meeting.—The Fifth Councilor District Medical Society held its annual meeting, June 30-July 1, at Elkhart Lake, where there are facilities for golfing, boating, tennis, fishing and swimming. Drs. Wilber E. Post and Paul B. Magnuson, both of Chicago, read papers on "Diseases of the Kidney" and "Treatment of Fractures," respectively; Drs. George V. I. Brown, Madison, spoke on "Plastic Surgery as Related to Practitioners of General Surgery"; Joseph P. McMahon, Milwaukee, "Experiences and Responsibilities of the Medical Profession with the Cancer Problem"; Otto H. Foerster, Madison, "Ringworm Infection of the Hands and Feet; a Common and Usually Unrecognized Dermatosis"; Friedrich Eigenberger, Sheboygan, "Experiments with Rattlesnake Venom," and Cornelius A. Harper, Madison, "Periodic Examinations of the Apparently Healthy." Following the banquet, Thursday, Glenn Frank, president, University of Wisconsin, and Dr. Arthur W. Rogers, president of the state medical society, gave addresses.

GENERAL

Society News.—At the annual meeting of the American Psychopathological Association, June 3, Cincinnati, Dr. Ross M. Chapman, Towson, Md., was elected president and Dr. Martin W. Peck, Boston, secretary. The next annual meeting will be held at Minneapolis.

Birth Rates Lower—Death Rates Higher.—In twenty-six of the twenty-eight states for which figures for the two years are available, the birth rates were lower for 1926 than for 1925, the department of commerce announces. Florida had the highest birth rate (26.4 per thousand of population) for 1926, and Montana the lowest (14.2). In twenty-three of the twenty-eight states for which figures are available for both years, the death rates for 1926 were higher than for 1925. Florida had the highest death rate (15.3 per thousand of population) and Montana the lowest (7.8). Twenty-one of the twenty-eight states showed higher infant mortality rates also for 1926, with Delaware the highest, 92.9, and Oregon the lowest, 51.6.

Ten Years of Bovine Tuberculosis Work.—In the ten years of the campaign to eradicate bovine tuberculosis from dairy herds of the United States, about 30 million cattle have been tested for tuberculosis and about 1 million of them have been destroyed. During this period, the annual consumption of milk in this country has increased more than 49 quarts per capita. During 1926, the U. S. Department of Agriculture notes that the public consumed 56 billion pounds of milk and cream. Cities and towns have become aware of the importance of better milk and 874 of them have adopted ordinances requiring tuberculin testing of cattle; in addition, 375 cities and towns provide an option between tuberculin testing and pasteurization. Thus 1,249 municipalities have taken positive steps to safeguard their milk supply.

Reorganization of Food and Drug Administration.—The U. S. Department of Agriculture announces that the new unit known as the Food, Drug and Insecticide Administration will become effective, July 1; W. G. Campbell will be in charge. Congress created the Food, Drug and Insecticide Administration recently for the purpose of separating work involving scientific research from the work of law enforcement. The new arrangements involve no change in the policy of enforcement and other acts concerned. The laboratories of the Bureau of Chemistry that are now engaged on food and drug control work will operate under the new unit. Mr. Campbell was a lawyer before joining the department of agriculture about twenty years ago. P. B. Dunbar, Ph.D., the assistant chief of the new unit, entered the service of the Bureau of Chemisty in 1907, and since 1925 has been assistant chief of the bureau.

Mosquito Eradication in Southern Salt Marshes.—The U. S. Public Health Service, under a special appropriation made by Congress, has been conducting surveys of the salt marshes of the South Atlantic and Gulf States in order to devise economical means of eradicating mosquitoes. These studies made in various states show the magnitude of any plan necessary to eliminate the breeding of salt marsh mosquitoes. These marsh areas range from 33,361 acres in one Southern state to 3,381,514 acres in another state. In studying methods to destroy mosquitoes in salt marshes, the factors to be investigated include the breeding and flight of the species of mosquitoes encountered, the type of vegetation found in the marsh area, the character of the soil, acreage of marshes, information on drainage, filling and the construction of sea-walls, the making of maps and collection of climatological data. Detailed studies of these factors are necessary to determine economical means of preventing the breeding of mosquitoes in these marsh areas. One fact brought out in a survey was in regard to the general distribution of *Anopheles atropos*. An observer had classed this species of mosquito as a mud breeder. The Public Health Service demonstrated that this mosquito breeds not only in muck pools in salt marshes, but in salt marshes in clear water. In several locations, the adults of this species were found to be more numerous than other types of salt water breeders and they were found to enter houses and bite freely by night and by day.

National Committee for Prevention of Blindness.—The twelfth annual report of this committee contains a tabulation which indicates that the amount of blindness due to ophthalmia neonatorum in schools for the blind decreased from 23 per cent during the period 1908-1912 to 12.5 per cent during the period 1923-1926. During the last year the national committee conducted two joint sessions with the American Social Hygiene Association on the subject of "Relation of Venereal Diseases to Vision Impairment." Some of the most prominent ophthalmologists, syphilologists and public health officials participated in these conferences. The committee sponsored the establishment of preschool eye clinics, and at the end of 1926 this work was being carried on in three demonstration centers, where children between 3 and 6 years of age had their eyes inspected and examined when necessary. The report notes that the sight-saving classes in the United States have increased from two in 1913 to 265 in 1926. This work, aside from promoting public interest in sight-saving, concentrates on two special projects: the conducting of courses during the summer sessions on eye hygiene and methods of sight-saving class work at the University of Cincinnati, and a brief survey of schools for myopic persons in Great Britain. The committee continued to promote the use of mechanical devices in industries to save sight; to educate employers and other officials in the necessity for these devices, and to provide adequate light and sanitary facilities in industry. The honorary president of the committee is William Howard Taft, and the managing director, Lewis H. Carris The headquarters office is at 370 Seventh Avenue, New York.

CANADA

Personal.—Drs. Judson V. Graham and Victor O. Mader have been appointed on the staff of the Dalhousie Clinic to fill vacancies caused by the death of Dr. Vernon L. Miller and the resignation of Dr. Philip Weatherbe.——Dr. Edward W. Archibald, director and professor of the surgical department of McGill University Faculty of Medicine, was recently made an honorary fellow of the Royal College of Physicians of London; Dr. Archibald is the fourth Canadian to be thus honored.——N. B. Dreyer, assistant professor of physiology, Dalhousie University Faculty of Medicine, has resigned to accept an appointment in the department of pharmacology at McGill University Faculty of Medicine, Montreal.

Traveling Health Clinic.—The clinic organized by the minister of health, the Hon. Mr. Hoadley, started, May 15, to visit 120 rural communities which have voluntarily requested a visit. The clinical personnel will examine school children and any other person free of charge, and when necessary will perform minor operations, making a nominal charge for those able to pay. The *Journal of the Canadian Medical Association* says there is a physician, an anesthetist, a dentist and two nurses in the party, and a second physician follows up, remaining on call in a community for twenty-four hours, to be present in case of any complications following a minor operation. The clinic will be out for about four months. The equipment and personnel are carried in two automobiles.

Society News.—Dr. Austin B. Schinbein was elected president of the Vancouver Medical Association at its twenty-ninth annual meeting, April 19, Vancouver; Dr. George F. Strong, secretary, and Dr. Anson C. Frost, treasurer.——At a joint meeting of the British Columbia Medical Association and the Vancouver Medical Association, Vancouver, June 22, Dr. Benjamin P. Watson, New York, was the principal speaker.——Dr. James G. McKay, Vancouver, addressed the May meeting of the Victoria Medical Society on "Paranoidal States of Interest to General Practitioners."——At the twentieth annual meeting of the Academy of Medicine of Toronto, May 3, Dr. John H. McConnell was elected president. The library of the academy is the second largest in Canada, having 8,500 volumes and about 250 current medical journals. The present membership of the academy is about 862.

LATIN AMERICA

Costa Rica Creates Health Department.—A cablegram received from Dr. Solon Nunez, secretary of State of Costa Rica, states that a national department of public health and public welfare has just been organized in Costa Rica. Costa Rica thus becomes the sixth Latin American country to recognize the importance of public health matters by placing them in exclusive charge of a member of the cabinet. Bolivia, Chile, Cuba, Honduras and Santo Domingo had already acted to the same effect. Dr. Solon Nunez, the head of the former health bureau, becomes the first incumbent of the newly created position.

Hospital Laboratory Dedicated.—The Presbyterian Hospital, San Juan, Porto Rico, has converted one floor of the hospital into clinical and research laboratories, which were formally dedicated recently. Dr. James W. Jobling, professor of pathology, Columbia University School of Medicine, New York, and Dr. Robert A. Lambert, director, School of Tropical Medicine, were guests of honor at the ceremonies. The laboratories are equipped for all modern diagnostic procedures. The director, Dr. Charles Weiss, of the department of bacteriology of the School of Tropical Medicine, was formerly a fellow in medicine of the National Research Council studying at Columbia University.

FOREIGN

Unusual Study of Children.—The Malting House, Cambridge, England, desires to obtain the services of a scientist of the first order, as young as possible, with a knowledge of the theory of science to investigate and conduct the introduction of children to science and scientific methods. To obtain the services of a suitable scientist, a salary will be paid such as will enable him to leave his present occupation whatever that may be. Preliminary work with young children (from 4½ to 7 years of age) has already been done at the Malting House School. It has encouraged the directors to make a full-time, long period appointment to develop this work, and they hope it will be the beginning of a research institute into problems connected with education. They desire a man of outstanding suitability, not necessarily a specialist in his own branch, acquainted with other sciences, the history of science and the history of religious beliefs. The problem involves in part an investigation by delicate observation of what sort of activities are best introduced into the child's environment and what should be the order of opportunity for these activities; further, the question of whether there exists any special factors limiting or making undesirable the introduction of children of such tender age to scientific knowledge and scientific thought. The work involves also developing a technic to utilize the child's native curiosity in such a way as in the long run to obtain the maximum conversion of his native curiosity into a controllable instrument of organized thought. The directors will be assisted in selecting the scientist by Prof. Sir Ernest Rutherford, Prof. Percy Nunn and Mr. J. B. S. Haldane. Communications should be addressed to The Directors, The Malting House, Cambridge, England.

Government Services

Graduation at Army Field Service School

The class in the eighth basic field course at the Army Medical Field Service School, Carlisle Barracks, Pa., graduated, May 28. Brig. Gen. Frank R. Keefer, assistant surgeon general, gave the principal address and presented the Skinner Medal for the highest standing in the class to Lieut. George E. Armstrong, medical corps. There were six other honor graduates, one of whom was from the veterinary corps. The total enrolment in the class was fifty-eight, including medical, dental and veterinary officers; one officer of the navy, two of the Cuban army and one each of the dental corps and the Philippine Constabulary. Lieut. Col. Charles R. Reynolds, commandant of the school, presented the diplomas.

Reserve Officers Assigned to Flood Duty

The following reserve assistant surgeons of the U. S. Public Health Service were assigned to duty at New Orleans in connection with flood work, June 11:

Edmund T. Lentz
W. J. Bryan McAuliffe
William W. Nesbit
Leon O. Parker
Charles B. Stacy
Joseph F. Van Ackeran

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 18, 1927.

Opticians Fail to Obtain Recognition by the Government

The attempt of the osteopaths to obtain state recognition ended in failure. A similar attempt by another body of irregular practitioners has met the same result. In the house of commons was moved the second reading of a bill to secure the registration of optical practitioners and to regulate the practice of sight-testing. It was proposed to set up a central optical board of Great Britain with power to register persons, after evidence of qualification, as optical practitioners. The mover of the bill said that every state of the United States had laws controlling and directing opticians. The Americans were probably the most bespectacled people in the world. That was not because their eyesight was worse than that of other peoples but because they recognized the fact that eyesight was important and took precautions to preserve it. That fact was also coming to be more and more recognized in this country. More spectacles were being worn by adults and children in this country than were worn eight or ten years ago, not for the reason that the eyesight of the country was worse but because of the efforts of opticians to cope with the problem. In the Council of the British Opticians and the Council of the Worshipful Company of Spectacle-Makers there was a registration of 3,500 opticians, of whose qualifications some guarantee was given. Opposition to the bill came from the unqualified opticians and the medical profession. There were at present a large number of quacks and venders of spectacles who had neither the apparatus nor the ability to test eyesight, and there had grown up something of a vested interest which would be affected if this bill became law. There were, however, many opticians who, though unqualified, had had long experience in this particular kind of work but who might have difficulty in satisfying the tests that were suggested in the bill. There was nothing in the bill to hinder any one who was now carrying on work as an optician continuing to do so. All the bill would do would enable the public to distinguish between men with regard to whose qualifications some guarantee was given by the board set up under its provisions and those whose qualifications could not be vouched for by a responsible organization. It was said that only 5 per cent of the cases of defective eyesight were due to some disease of the eye or disease arising from some other cause, and the opposition of the medical profession was based on what it feared would be the danger to this percentage from the registration of opticians who, though they might be perfectly qualified to test the sight and to prescribe the appropriate glasses, had not the training necessary to enable them to diagnose the cause of the trouble in the eye.

A physician, Dr. A. V. Davies, moved an amendment, "That the House declines to give a second reading to a bill the subject matter of which is at the present time being investigated by a departmental committee." He said that the promoters of the bill asked that a body of unqualified men, with a certain amount of training, which might be limited or otherwise, should have state approval of their profession. If they were successful in their demand, it would mean that the public would regard them as competent to examine and treat eyes, and that was a position which could not be maintained. Sir George Berry, the ophthalmic surgeon of Edinburgh, in seconding the amendment, said that legislation on the lines proposed would not be in the real interests of the public. In his experience, which was fairly considerable, he had never known a case in which spectacles, however unsuitable, did any harm to the eyesight. There was such a thing as considerable discomfort being caused by unsuitable spectacles, as there was in the wearing of ill fitting boots or a nonfitting dental plate, but it was an exaggeration to say that there was any actual danger to the eye from that source. Although spectacles, even if unsuitable, did not do harm, they were, if they were suitable, capable of doing a great deal of good. That, to his mind, was a justification for the public having the services of skilled opticians, but it did not, in his view, justify the kind of legislation proposed by this bill, which was calculated to mislead the public and to arouse a mistaken and, therefore, an undesirable degree of security. The optician might be able to detect the existence of disease, and, perhaps, to discriminate, in some cases, between diseases of the eye; but he could not do so without being liable to make a great many mistakes unless he had had the full training of a physician. Sir Kingsley Wood, parliamentary secretary of the ministry of health, said that the prevalence of defective sight among school children was about 10 per cent. In the population generally it could be roughly estimated that the number of persons with defective sight in England and Wales was about one in five. There was undoubtedly a case for something to be done, but there was considerable divergence of opinion as to how it should be done. Physicians had urged with a considerable amount of weight that there was an appreciable percentage of cases in which great harm might be done by an ophthalmist through lack of medical knowledge, but how far that argument was valid could be ascertained only by full investigation of the facts. It was all the more important that there should be an impartial inquiry because of the large amount of money now being spent by approved societies on optical benefits. He suggested, therefore, that the matter should be referred to a departmental committee. The motion for second reading was negatived without a division.

Clean Milk

An important discussion on clean milk took place at the Surrey County Hospital, Guildford, where a joint meeting of the medical and veterinary professions was held. Professor Hobday, honorary veterinary surgeon to the king, urged that the eradication of tuberculosis from nearly a million milch cows in this country was a question not only of cost but also of expediency. At present there were many hundreds of milking sheds in which the inspector appointed by the ministry of health, usually a physician, had never set foot, and often the official inspector, even if he tried to perform his duties properly, had no practical knowledge of what he was supposed to inspect. Such inspection was obviously the job of the veterinarian, and it seemed anomalous in 1927 to find the work being attempted by the health officer or the sanitary inspector. For satisfactory inspection the inspection board should have a health officer, a veterinary officer of health and a sanitary inspector. Each would find plenty to do in his own legitimate sphere, and neither would overlap the work of the other. Professor Hobday also drew attention to the astonishing apathy and ignorance of the public in regard to clean milk and the consequent need for education, which could be given only by the medical and veterinary professions.

Dr. Nathan Raw, president of the Tuberculosis Society of Great Britain, thought it to the discredit of this country that, after twenty-five years' work, from 10 to 12 per cent of the samples taken of our milk supply still contained tubercle bacilli. He was a stanch advocate of the production of clean milk in the first place, but this was for the most part an unattainable ideal at the present time. He therefore had been reluctantly converted to pasteurization as the only possible way of guaranteeing safe milk for our great urban population. Mr. Male, a veterinary inspector, said that farmers could produce clean milk if the public would pay for it. If only the milk and dairies act were properly administered throughout the country we should hear little about dirty milk. The need for pasteurization would not exist, since in a short time only clean milk from tuberculous free herds would be produced. Dr. Howell, health officer for Hammersmith, said that the superior safety of London's milk at the present time was reflected in a big reduction in infantile troubles. Owing to the uncertain conditions of milk production, pasteurized milk was the only safe form. A representative from Reading University urged the meeting to rebut the statement so often heard that clean milk—that is, the higher grades of milk—was an expensive luxury. The production of clean milk was not a question of expensive and elaborate sheds and equipment but of method. Pasteurization might destroy the noxious germs in milk, but it could not make dirty milk clean. It was just as easy to produce a clean product as a dirty one. All that was required was education first of the farmer and secondly of the public, who must be taught to buy clean milk at a fair price.

The World's Hospitals

The results of an extensive tour of hospitals in Europe and America were submitted to the Royal Institute of British Architects by Mr. Lionel G. Pearson, F.R.I.B.A. He was confident that no country had finer hospitals than England, but there was much to be learned from other countries. There are some critics who would say that in Europe the comfort of the patient is the first consideration, while in America the efficiency of the staff is; but the two points of view seem to be of almost equal importance to the hospital planner. The science of hospital planning was pursued very successfully in all the countries visited, and there was a friendly rivalry to produce buildings which are down to date from the point of view of medical science, and, at the same time, attractive to the patient. Mr. Pearson was cheered to find in his journeys that some of the difficulties that beset hospital architects in this country are apparently universal; for instance, he never met a sister who was really satisfied with the accommodation provided for linen, or found a type of window that admitted fresh air without causing a complaint from some patient in the ward. Dealing with the American part of his tour, Mr. Pearson said that the number of hospitals which had been built during the last ten years was amazing. The multistoried hospital was the most popular just now. This has led to the vertical type of planning, with the elevator, the laundry chute, and various other labor-saving devices. The long corridors of the European hospital are considered quite out of date, and one American visitor remarked, after seeing one of our hospitals, that he hoped the staff were fitted with roller-skates. The entrance was made as attractive as possible and the waiting room furnished like a hotel lounge; the anesthetic room was frequently furnished like an ordinary room to avoid "the operation atmosphere." The increasing importance of roentgen-ray work was nowhere more fully recognized than in America, where its use for diagnosis had reached such a point in one important hospital more than 85 per cent of the patients were now roentgenographed. The large ward seemed to be a thing of the past, and smaller units are now the rule everywhere.

The World's Finest Dental Clinic for London

London will soon possess the world's finest dental clinic. This will be due to the generosity of Mr. George Eastman of Rochester, N. Y., and head of the Kodak Company, who is giving $1,500,000 in order to establish the clinic in London. Mr. Eastman has for many years taken a great interest in dentistry, and particularly in the care and improvement of children's teeth. Ten years ago he established a clinic in Rochester, N. Y., under the direction of Dr. Harvey J. Burkhart. Dr. Burkhart is in London making the arrangements for the establishment of the new clinic. It will contain fifty chairs in the main infirmary and seven in the orthodontia department. There will also be twenty-five beds for tonsils, adenoids and cleft palate cases, for which at present there is a great scarcity of beds in London.

Visit to London of the Inter-State Post-Graduate Assembly of North America

The Inter-State Post-Graduate Congress has held a three-day session, including lectures and visits to various London hospitals. A lecture on gallstones was given by Sir Crisp English. Dr. L. S. T. Burrell gave a lecture on shock tactics in pulmonary tuberculosis. Visits were paid to the Middlesex Hospital, Charing Cross Hospital, the London Temperance Hospital, and St. Paul's Hospital for Skin and Genito-Urinary Diseases. At each of these institutions, demonstrations and lectures were given.

PARIS

(From Our Regular Correspondent)

June 1, 1927.

Meeting of the General Association of French Physicians

The Association générale des médecins de France held last week in Paris, in the large amphitheater at the Faculté de médecine, its seventy-fifth general assembly since its foundation. Ninety-four constituent local associations sent delegates. The association comprises 10,060 members, 566 having been added this year, but from this number 263 must be deducted by reason of deaths. It has, since the last report, distributed 214,404 francs in the form of benefits in aid of 342 physicians or their families, and has, in addition, accorded pensions to 174 of its aged or disabled members. The local societies all have their own independent treasury for social welfare work, but they send each year to the general treasury one tenth of the dues that they collect (the dues range from 16 to 60 francs, according to the region), and, in addition, a fixed sum of 5 francs per member. The association received considerable endowment from the estate of D. Benoit of Montauban, who was, however, not a member. Among the subjects discussed by the general assembly were the proposal to create a council on medical ethics, the publication of a code of medical ethics, and the publication of a memorial volume dedicated to the physicians killed during the war. The closing banquet took place in the halls of the medical arts building (*foyer médical*), which was dedicated on that occasion, although not fully completed as yet nor opened to its members. At the banquet M. André Fallières, minister of public health, presided.

The Inquiry on Cancer

An extensive inquiry has been opened on cancer and all the physicians of France have been requested to address to Professor Hartmann, president of the league against cancer, their personal opinions, on the basis of their observations of their patients, on the following three questions: (1) the hereditary transmission of cancer; (2) the contagiousness of cancer, and (3) its relations to other diseases. The medical journals have already begun the publication of some of the more interesting replies in order to stimulate the zeal of others. It is apparent from the fraction of replies already received that many physicians believe in the hereditary transmission of cancer but that they hesitate to admit its contagiousness, not having observed any convincing examples. It is evident also that many assign to syphilis, and even to tuberculosis occasionally, a predisposing rôle. Dr. Dorvaux of St. Denis urges that the posters put up everywhere by the league warning against the dangers of cancer should contain also a warning against the claims of quacks concerning pharmaceutical products with which patients vainly treat themselves and thus allow the (often brief) period to slip by within which they might, with good hope, have recourse to the surgeon or to the radiologist for an early diagnosis that would serve as the basis for efficacious treatment. Unfortunately, there is in France no official control of advertisements of remedial agents; consequently, the quacks who exploit such remedies or who create so-called cancer institutes do a prosperous business.

The Centenaries of Vulpian and Pinel

The ceremonies in honor of the centenaries of Vulpian and Pinel, which were held simultaneously in spite of the fact that these scientists, a physiologist and an alienist, were devoted to quite different fields of research and that a gap of a century intervened between the two men, extended over a whole week but were not attended by many besides the official personages, owing to the distraction occasioned by the flight of Lindbergh. Friday, May 27, and Saturday, May 28, there was a plenary assembly of the Société de biologie and its affiliated societies. Saturday evening, in the large amphitheater of the Faculté de médecine, there was a formal meeting presided over by M. André Fallières, minister of public health, and supported by presidents of the large learned societies and numerous official foreign delegates. Dr. Fano, *"senatore del regno,"* spoke in the name of the latter. M. Roger, dean of the Faculté de médecine, recounted the scientific career of Vulpian, who was likewise dean of the medical faculty. M. Lacroix, as the representative of the Academy of Sciences, and M. Rathery, who occupies, at present, in the medical faculty, the chair formerly held by Vulpian, told of his researches in experimental physiology and of his great friendship for Pasteur, whom he encouraged in his investigations on vaccination against rabies, Vulpian himself having performed under the eyes of Pasteur the first vaccination, owing to the fact that Pasteur did not have perfect control of his hand movements. Monday, a visit was paid to the former services of Vulpian, and of Pinel in the Hôpital de la Salpêtrière, and a special meeting of the Société médico-psychologique was held. Tuesday, the Société de neurologie held a formal session, and the Academy of Medicine, in extraordinary assembly, listened to the eulogies of Vulpian and Pinel under the chairmanship of M. Herriot, minister of public instruction. In the evening a banquet was given in honor of the foreign delegates. Wednesday, at the eighth international neurologic convention held at the Hôpital de la Salpêtrière, MM. Lhermitte and Tournay read papers on normal and pathologic sleep. In the afternoon, there was an official reception of the whole assembly at the Hôtel-de-Ville de Paris. Thursday, at a second session of the international neurologic convention, papers were presented by Klejn of Utrecht and Hautant of Paris on the means of clinical exploration of the vestibular apparatus.

Vascular Sympathectomy to Combat Varicose Ulcers

M. Cotte, professor at the Faculté de médecine de Lyon, following the example of Leriche in the use of arterial sympathectomy, applied the method to the femoral artery in two patients with rebellious varicose ulcers. He secured excellent results and rapid spontaneous cicatrization. However, in one case he had first improved the local condition by diathermy and electric treatment, applying at the same time extirpation of the saphenous vein; in the second case he had applied Thiersch skin grafts. While the treatment was admittedly complicated, M. Cotte observed that the results were more rapid and more complete than when sympathectomy was not performed simultaneously. At the meeting of the

Société de chirurgie de Lyon, at which the communication was presented, M. Bérard confirmed in all respects, on the basis of his own personal observations, the conclusions of M. Cotte.

Special Railway Coaches for the Transportation of Invalids

The railway company operating between Paris and Lyons, together with ports on the Mediterranean, is a line that transports every year a large number of patients, for its trains ply to and from the Riviera, which is much frequented by convalescents and the tuberculous. There has been in the past considerable criticism of the railway company in this connection, because of the danger of spreading disease among the other passengers. All the company was able to do was to subject the interior of its coaches to frequent and thorough disinfection. But it has recently constructed a special type of car for the transportation of patients which is a model of convenience. The patient is furnished a room 4.5 meters long by 2 meters wide, with an air space of 22 meters, and with a lavatory and toilet adjoining. The room contains a low, polished brass bedstead, which can be dismounted at the will of the patient. The head of the bed is usually placed against the partition of the lavatory in order to allow circulation on three sides. The bed is supplied with a comfortable mattress and springs, which may be easily disinfected. Opposite the patient's bed is another brass bed, placed transversely and transformable into a couch. The patient may therefore have near him, both day and night, the person who is taking care of him. In the patient's room all projections that might serve as dust catchers are avoided. All the corners are rounded out for a similar reason. The walls, the ceiling and the floor all consist of washable material that can be disinfected after each journey. The rugs and the window curtains are of washable fabrics. In each long side of the room there is a large double door to facilitate the admission of the patient. One of the doors, which opens directly into the corridor, may be blocked, in the presence of a contagious disease, to effect complete isolation. Light enters through large windows projecting outward. It may be dimmed by curtains of washable fabric, or completely shut out by means of blinds. The electric light fixtures, placed in the ceiling, make it possible to illuminate the room brilliantly; to have a soft, dim light, or to make the room completely dark. The patient has, furthermore, a reading lamp at the head of his bed, which makes it possible to shut off the light from the ceiling, if desired. Protection against variations of temperature is secured by the use of cork strips to stop up chinks in the walls and the floor and by double windows. When the two window panes are raised, the layer of air between them prevents the dissipation of heat and the penetration of the cold. The double windows prevent also, in winter, the condensation of frost on the window panes. Immense radiators with smooth walls (a new system) cover the two long sides of the room, under the windows. With this equipment a warm temperature can be maintained within even though the mercury drops to the lowest level. The radiators are supplied with air taken from the outside and filtered through layers of cotton, so that ventilation is accomplished with air from which all dust is removed. The radiators may be used, furthermore, in summer to cool the air, ice-water being forced through them in place of steam. The cork strips in the walls and floor serve likewise to deaden the noise and to absorb the shock. The lavatory adjoining the patient's room contains a toilet seat and flushing tank and a stationary bowel with hot and cold water. In case the patient has an infectious disease, the toilet seat is supplied with an hermetically sealed receptacle in order to prevent contamination of the roadbed or of the trucks with infectious matter. The receptacle is thoroughly disinfected at the end of each journey. The service room is supplied with hot and cold water, an icebox, a water-bath, an electric heater, an electric chafing-dish for the preparation of foods and beverages, a medicine chest, a linen cupboard, a cupboard for dishes, and an air-tight receptacle for soiled linen. The car is provided also with a Rouvillois stretcher for carrying persons severely injured or helpless patients. The stretcher can be sent for the patient, the patient can be transferred to the bed in the railway car, and on reaching his destination can be carried on the litter to his home or hospital.

PRAGUE

(From Our Regular Correspondent)

June 1, 1927.

Venereal Disease

Under the Czechoslovak law concerning venereal diseases, only the cases which occur in patients who have lapsed in treatment or those who have not complied with the orders given to them by the physician must be reported to health authorities. The central health authority may make the reporting of all cases of venereal diseases obligatory for a limited period of time, provided the names of patients are not required. This provision was made in order to make it possible for the health administration to collect information on the prevalence of venereal diseases in the country. The first country-wide reporting was carried out in February, 1921. Because the law relating to venereal diseases was not in force at that time the reporting was optional. Nevertheless its results were good. More than 21,000 venereal cases were reported. The second reporting, along similar lines, was organized in February, 1926, under the provisions of the law. In this instance, reports were requested only of cases which came under treatment for the first time in the course of the month. The results of the second reporting have been published recently and have shown considerable reduction in the incidence of fresh venereal infections in the course of the last few years. The reduction in the incidence of syphilis for both sexes amounts to 50 per cent; of gonorrhea, around 10 per cent; of chancroid, about 70 per cent. Since the second reporting was carried out under the provision of the law, it was more complete than the first one.

The first reporting was carried out when legitimatized prostitution was still in force. In the middle of 1922, legalized prostitution was abolished. If the opponents of abolition had been right in their assumptions by 1926 the deleterious effects of abolition would have shown themselves in the incidence of venereal infections. The high incidence of infection of married women has decreased. This shows that the conditions following the war were responsible for this phenomenon. Infected soldiers who came back from military service carried the infection into their families. Prostitution has decreased but, on the other hand, extramarital relations have come to the forefront. This can be explained by the measures that have been taken against prostitution as a profession, while the greater freedom for women in present-day society has led to the spread of venereal infection among them. While in the first reporting prostitution was the chief source of infection for men, in the second reporting extramarital relations with nonprostitutes occupy the first place.

Death of Janosik

The death of Prof. J. Janosik of the Czech medical faculty of Prague was announced, May 10. Professor Janosik was the founder of the school of Czech anatomists and histologists. His whole career was connected with the development of the Czech medical faculty of Prague. Born in 1856 in Moravia, he obtained his medical education in Prague. Since 1893 he had been chief of the anatomic institute of the Czech medical faculty in Prague. Under his guidance the whole present generation of Czechoslovak physicians was introduced into the study of medicine. He established his reputation through his studies on the development of the genito-urinary organs and of the suprarenal glands. He has also written textbooks of anatomy and histology, respectively, which have become standard reference books for the whole Czechoslovak medical profession.

Masaryk League

The Masaryk League Against Tuberculosis recently reviewed at its annual meeting its activities of last year. While the tuberculosis mortality for 1924 was at the low figure of 190 per hundred thousand, it has increased since that time. Last year's mortality was 196 per hundred thousand. This has occurred in spite of the increased activities of the league. At present the league has local branches in 293 communities, including all the provinces of the country. The chief activities of the local branches were concerned with educational campaigns. Dispensaries exist in 179 places. The whole league has more than 37,000 paying members. The public contributes during the week of the annual spring drive. The organization of regional conferences and public health exhibits has proved effective in spreading interest in the work of the league. A course for physicians and another for public health nurses was organized last year. Special effort was made last year to obtain cooperation between the league and the sickness insurance organizations. In many instances a contract was made according to which members of the insurance organization are to be supervised by the dispensaries. In this way, the campaign against tuberculosis was assured of uniformity of method, a desirable condition which would be endangered if the insurance bodies had organized an independent campaign. The activities of the league have been extended to include protection of children who are exposed to tuberculosis. Summer camps and preventoriums have been established, partly independently and partly in connection with other child welfare agencies. The league had to continue to pay the fees of indigent consumptives in tuberculosis hospitals although this is one of the least productive expenditures. The league has continued its efforts for the formulation of a special law relative to the campaign against tuberculosis. The time for such a law seems to be ripe because it is felt that voluntary support should be supplanted by official activities and optional cooperation by compulsion.

Title of Specialist

The ministry of health recently has been brought before the supreme court by the chamber of physicians of Moravia because the ministry has given to a physician who applied for it the right of using the title of "specialist." Up to the present the usage in this country has been that the title of specialist might be given by the chambers of physicians. These organizations exist as independent autonomous bodies in each of the provinces. The supreme court upheld the ministry of health. As a result, the ministry of health has issued rules and regulations according to which the title of specialist may be granted. Branches of medicine in which the title of specialist can be given are internal diseases, diseases of the heart and the vessels, diseases of the lungs, tuberculosis, diseases of metabolism, neurology, psychiatry, physical therapy, roentgenology, balneology, pediatrics, otorhinolaryngology, ophthalmology, surgery, orthopedics, urology, gynecology, dermatology, venerology and medical laboratory methods. A combination of several of the branches enumerated is allowed only in the instances of allied specialists, for each of which a separate and equivalent qualification shall be required by the authorities. Those who apply for the title of specialist shall produce a certificate showing that the applicant, after his graduation in medicine, has spent at least two years in surgery, gynecology, ophthalmology and internal diseases, and three years in an institution where he has had a chance to acquire a thorough practical knowledge of the branch of medicine in which he wants to specialize. University institutes and departments of large hospitals are considered as institutions offering the necessary facilities for training. Internship only in such institutions can be credited in the set probation period. Courses in the special branch of medicine given in similar institutions should not be longer that one fourth of the probation period. Experience in foreign countries is equivalent to that at home. A person who has obtained the right to use the title of specialist but who has not practiced the specialty for a period of five years loses the right to use the title. Those who wish to practice a medical specialty must announce their desire to the provincial health department, which has the right to examine the documents of applicants and to refuse or accept their qualifications.

Better Housing Week

For the first week of May the Health Week of the German population in Czechoslovakia was organized. The purpose of the campaign was to demonstrate that healthy housing is of capital importance for the prevention of sickness and that much can be done in order to improve housing in spite of the present adverse financial situation. Much could be achieved if the space available in many of the family apartments was used in a rational way. In many families, the best room is set aside for special occasions, such as the visits of friends, while it is not used at all by the family itself. The standards of the American home and the American family house were given wide publicity in lectures presented during the week. An office has been opened in Prague where instruction is given concerning advantageous ways of obtaining the necessary capital for erecting a house and concerning plans for its construction.

BERLIN

(From Our Regular Correspondent)

June 4, 1927.

Meeting of the German Surgical Society

The congress of the Deutsche Gesellschaft für Chirurgie was held in Berlin, April 20-23, 1927, under the chairmanship of Küttner of Breslau. The first main topic on the program was: "Newer Points of View on the Preparation and the After-Treatment of Persons Operated on." Rost of Mannheim gave a survey of the deaths occurring during the past four years in the surgical department of the Mannheimer Krankenhaus. Approximately a third of the deaths were due to infection and injuries, a third to tuberculosis and malignant tumors, and a third to peritonitis, operations on the stomach and gallbladder, etc. Ten per cent of the deaths of the last group were due to heart failure, which shows the need of a more careful estimate of circulatory conditions before an operation is underaken. In the testing of heart function carried out during the last nine months on patients about to be operated on, as reported by Schrumpf, Gönczi, Mosler, Katzenstein and Kauffmann, it was found that more hearts than was commonly supposed were unable to function normally. A diseased heart should be treated with digitalis before the operation. The indiscriminate administration of digitalis to all persons who are to be operated on is, however, reprehensible. The newer heart remedies were discussed briefly; also the importance of camphor in the treatment of pneumonia, of quinine and quinidine in exophthalmic goiter, of epinephrine in sudden heart failure, of strychnine and caffeine to bring about contraction of the vessels, and of amyl nitrite, glyceryl trinitrate and papaverine in high blood pressure was emphasized. For the increase of embolism in recent years, and, more particularly, for the outbreak in November and December, 1926, no definite cause has been discovered. That certain types of persons are predisposed to embolism could not be proved. Against postoperative pneumonia there is as yet no sure prophylactic nor any reliable remedy. The newer remedies (pneumococcus serum, calcium chloride urea, injection of ether or patient's own blood, inhalation of carbon dioxide, roentgen irradiation, etc.) have, however, proved effective in many cases. The changes in the acid-base equilibrium and the composition of the protein bodies after anesthesia and operation must be noted. Acidosis in itself does not work harm, but, just as the disturbances in protein metabolism, is to be taken as evidence that the bodily economy has undergone extensive and far-reaching changes. The recommended infusions of dextrose, with and without insulin, and the ingestion of sodium, do not influence postoperative disturbance of metabolism but are of value in that they protect the liver against deprivation of glycogen. If severe vomiting occurs, sodium chloride must be given owing to the reduction of that element. *Infusions by the drip method* are recommended, following operations. Ringer's solution and normosal are liable to cause chills, so that the author has gone back to physiologic sodium chloride solution. Ingestion of liquids after operation is very important (fever in children due to thirst). Of great importance is the correct preparation of the intestine (not too strong cathartics) and prophylaxis of postoperative paralysis of the intestine (cholin, hypophysin, solution of pituitary). One thing that is much neglected before operations is the preparation of the buccal cavity, although that is a matter of considerable importance. Likewise, the mutual relations between physical and mental conditions must not be neglected (shock, fright psychoses, deliriums, fear and its sequels). The proper furnishing of the sickroom aids the patient just as the correct use of hypnotics and anodynes. Of great importance is also a correct diet for surgical patients, both following the operation and later. In large hospitals, the nurse in charge of the diet kitchen should visit the patient along with the physician and serve as mediator between the desires of the physician, the patient and the management. The creation of a diet kitchen of one's own is also both feasible and advisable. In order that an operation may be successful, good and not too short preparatory treatment, as well as a suitable general after-treatment, as distinct from the special wound treatment, which the speaker did not discuss in detail, is needed.

Concerning postoperative psychoses, which develop in about 0.2 per cent, the male sex predominating, Volkmann of Halle reported that two thirds of the cases recorded in the literature and twelve of his own cases belong to the excitable type, and one third to the melancholic type with thoughts of suicide. Treatment, for the most part, can be only symptomatic. Caution is indicated if psychoses have occurred in the family history or in the patient himself on previous occasions, and when there is great fear of the operation.

Taking up the subject of lung surgery, Sauerbruch of Munich discussed the origin and the surgical treatment of bronchiectasis. Whereas formerly it was the general belief that bronchiectasis developed in association with inflammatory changes in the lungs, the fact that in 80 per cent of the cases the involvement concerns the left lower lobe gives food for thought. Careful researches have shown that inflammatory changes do not ordinarily exist and that everything points to congenital origin. The embryologic development of the lungs shows also that, to the right, nothing opposes lung development, whereas to the left, the heart interposes itself like a wall and that, in some cases, the duct of Cuvier opposes itself as an obstacle to bronchial development. Depending on the time when the constriction takes place, there develop large cysts, bronchiectasis or multiple smaller cyst formation. Pathologic symptoms do not ordinarily appear until an infection develops at the site of these anatomic changes. Relief from the severe suffering to which these chronic patients are exposed can be secured only through a radical operation, resection of the left inferior lobe. The author presented four patients who had been cured in that manner.

Voelcker of Halle spoke on the operative treatment of bronchial asthma, and, more particularly, on the earlier type associated with a rigid thorax. He discussed in detail the position in such cases of the ribs in relation to the spinal column, as plainly shown in the roentgenogram, and presented a cured patient in whom he had resected paravertebrally the first to the tenth ribs.

Haberland of Cologne called attention to remote injuries following section of cervical glands. In experiments on dogs, he demonstrated the reduced performance of the heart following division of the stellate ganglion. Kümmell of Hamburg emphasized, on the other hand, that by his *operation, which is indicated only in the most severe cases,* he effected a cure in 60 per cent of the cases. The unpleasant secondary manifestations have been eliminated since he no longer removes the cervical ganglion but only the stellate ganglion. He welcomes the Voelcker operation, which is indicated in the presence of a rigid thorax, for he admits that it will help to reduce the percentage of failures resulting from his own operation.

SURGERY OF THE PANCREAS

The second main topic on the program was surgery of the pancreas. Schmieden, surgeon of Frankfort-on-the-Main, after a brief historical introduction, in which he made mention of the well known monograph of Körte, described the anatomic picture as it is presented in necrosis, hemorrhage and inflammation, and then took up the subject of pathogenesis. He enumerated the following possible modes of origin: infection (1) from the duct of Wirsung; (2) from the duct of Santorini through the contents of the duodenum; (3) from the common bile duct; (4) through arterial embolism; (5) through retrograde venous circulation; (6) through traumatic insult; (7) through duodenal ulcer (direct transmission to the head of the pancreas); (8) through a duodenal diverticulum in the pancreas. He emphasized the explosive nature of the origin of the disease, which may be precipitated or released by the passing of a small stone past the papilla. Stasis or infection of the pancreas may be brought about by any of the diseases of the biliary system, so that these may be designated as associate diseases. In every operation on the stomach or duodenum there is danger of the pancreas being injured and of a resulting pathologic condition of that organ. The excision of a penetrating ulcer should be avoided, if possible, owing to the danger of injury to the pancreas. But in addition to these well known modes of origin there appears to be an obscure, imperfectly understood factor associated with the development of necrosis of the pancreas, which may be referred to as a pancreas diathesis. Among other causes the speaker mentioned briefly infestation with ascarids, meat and sausage poisoning, and metastatic conditions, especially following proctitis and remote operations. The main danger from acute pancreas conditions consists, first, in hemorrhage from the omental vessels resulting from their digestion; secondly, in fat necroses, which develop, at times, after about sixteen hours, the transmission occurring through the lymph paths or by direct contact, and, thirdly, in peritonitis which follows, together with sepsis. Early operation is the operation of choice. The prognosis as to the course is uncertain and it is therefore impossible to state what the interval of the condition will be. In the event of a severe collapse, and likewise in late cases, if the pulse is strong, one may occasionally wait until an abscess or cyst develops. However, it is not advisable, if there is a suspicion of a pancreas affection and severe abdominal symptoms, to wait until the complete clinical manifestations of the disease have developed. Acting on the principles here laid down, the author succeeded in effecting cures in 48.8 per cent of his cases, which leaves still the very high mortality rate of 51.2 per cent. The object of the operation is to remove the exudate and to reduce the gland to a state of quiescence through incision of the capsule (sometimes incision of the gland itself, with avoidance of the excretory ducts). Often opposing incisions are needed, and the operator must be on the lookout for intraperitoneal and retroperitoneal pus pockets.

Von Bergmann of Berlin emphasized that animal experimentation had increased our knowledge of the nature of pancreas disease, because it has proved possible to produce in animals what we observe in man. The essential thing is the ferment that is formed in the gland. Speaking figuratively, the powder lies in the gland all ready to be touched off, and only a slight happening is required to cause the explosion. The bacterial factor must not be neglected, but it is not a necessary precondition. Autodigestion is a prime factor. The previous ingestion of trypsin preparations has produced sometimes a measure of immunity, but it has not proved possible to establish a passive immunity. Von Bergmann, also, holds the view that in severe acute attacks a cure can be effected only by prompt operative intervention. On inquiring carefully into cases it will be found that occasionally several lighter attacks have preceded the present severe attack. Frequently after attacks of gallbladder disease one hears of pains radiating to the left side. The speaker is of the opinion that such pains indicate involvement of the pancreas. Greater attention should be paid to such disturbances than has been given in the past. Determination of Head's zones is important. Diastase examination of the blood and the urine, and testing of the duodenum (pain attacks following ether) are excellent diagnostic aids. The largest percentage of diseases of the pancreas comes under the head of cholecystopathies (dyskinesia, cholecystitis and cholelithiasis). It does not require a large stone to produce a pathologic condition. As a rule, there is a neuropathic complex, which causes bile and trypsin to be shunted about without the correct entrance into the duodenum being found. Also cholecystectomy may create a predisposition to pancreas disorders that develop later. A long period of postoperative dieting and treatment with trypsin is needed in the above described light attacks, for it is possible that, if the light attacks are treated, the number of severe attacks may be reduced.

(To be continued)

Marriages

Abraham Allen Goldbloom, Pittsburgh, to Miss Ruth Held, of New York, at Berlin, Germany, April 10.

Leo C. Culligan, Rochester, Minn., to Miss Jeane Marie Dennis of Marquette, Mich., June 1.

Holcombe H. Burt, South Boston, Va., to Miss Martha Lee Adams of Blackstone, June 15.

John M. Blades to Miss Anna Mae Sloan, both of Butler, Ky., June 3, at Somerset.

Donnell B. Cobb, Goldsboro, N. C., to Miss Sara Elizabeth Borden, June 4.

Guy Watts Wagner to Miss Blanche E. Thomas, both of Chicago, June 4.

Henry Goodfriend, Boise, Idaho, to Miss Rosa Marks, June 5.

Deaths

William Sweeny Stucky ⊕ Lexington, Ky.; University of Michigan Medical School, Ann Arbor, 1908; member of the American Academy of Ophthalmology and Oto-Laryngology; president of the Fayette County Medical Society; on the staffs of the Good Samaritan Hospital and the Odd Fellows Orphans' Home; aged 43; died, June 10, of cerebral hemorrhage.

Edward Arthur Bowles ⊕ Hebron, Neb.; Detroit Homeopathic College, 1903; Medical Department University of Illinois, Chicago, 1905; past president of the Thayer County Medical Society; part owner and surgeon of the Blue Valley Hospital; county physician; aged 47; died suddenly, June 3, at a hospital in Omaha, of chronic valvular heart disease.

Clarence Couch Elebash, Selma, Ala.; Medical Department of the Tulane University of Louisiana, New Orleans, 1909; member of the Medical Association of the State of Alabama; served during the World War; on the staff of the Vaughan Memorial Hospital; aged 38; died, June 2, at Asheville, N. C., of pulmonary tuberculosis.

Albert Pearson Woodward, San Francisco; Bellevue Hospital Medical College, New York, 1886; for many years professor of dermatology, College of Physicians and Surgeons of San Francisco; formerly on the staff of the Hospital for Children; aged 72; died, May 16, at Stockton, Calif., of cerebral arteriosclerosis.

Joseph R. Mountain ⊕ Connersville, Ind.; University of Michigan Medical School, Ann Arbor, 1898; past president of the Fayette County Medical Society; on the staff of the Fayette Memorial Hospital; aged 55; died, June 10, at the Clinic Hospital, Cleveland, following an operation for abscess of the liver.

Robert Madison Slaughter, Washington, D. C.; College of Physicians and Surgeons, Baltimore, 1879; member of the Medical Society of Virginia; formerly member of the state board of medical examiners of Virginia; aged 70; died, June 3, at a sanatorium in Silver Spring, Md.

Frank Maxwell McCartney ⊕ Denver; Gross Medical College, Denver, 1902; on the staff of the Denver General Hospital and for ten years chief of staff of St. Anthony's Hospital; aged 52; died, June 5, of septic pneumonia and erysipelas of the face.

Mary Miller Battels, Ashtabula, Ohio; Universiy of Michigan Medical School, Ann Arbor, 1888; member of the Ohio State Medical Association; aged 66; died, June 9, at the Ashtabula General Hospital, of injuries received in an automobile acicdent.

George Allen Lightle, Ashland, Ill.; College of Physicians and Surgeons, Keokuk, 1896; member of the Illinois State Medical Society; aged 57; died, June 6, at St. John's Hospital, Springfield, of intestinal obstruction following a cholecystectomy.

George Rescarick Moore ⊕ Trenton, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1897; for twenty-eight years on the staff of the Mercer Hospital, where he died, June 6, following an operation for acute appendicitis, aged 56.

Robert A. Cushman, Princeton, Ind.; Medical College of Indiana, Indianapolis, 1902; member of the Indiana State Medical Association; formerly mayor of Princeton; aged 51; died, June 7, at the Walker Hospital, Evansville, of uremia.

Nathan Lytle Clarke ⊕ Meridian, Miss.; Louisville (Ky.) Medical College, 1883; formerly professor of theory and practice of medicine, Mississippi Medical College, Meridian; aged 70; died, May 17, of hemorrhage, due to gastric ulcer.

Albert Theodore Kaupp ⊕ Wenatchee, Wash.; Jefferson Medical College of Philadelphia, 1891; on the staffs of the Central Washington Deaconess Hospital and St. Anthony's Hospital; aged 63; died, May 28, of chronic poliomyelitis.

Marcus Denis Cronin ⊕ Albany, N. Y.; Albany Medical College, 1907; formerly instructor in surgery at his alma mater; on the staff of St. Peter's Hospital; aged 47; died, May 29, of chronic myocarditis and pulmonary edema.

Jeremiah Francis Calef ⊕ Middletown, Conn.; Yale University School of Medicine, New Haven, 1880; past president of the Connecticut Medical Examining Board; on the staff of the Middlesex Hospital; aged 71; died, June 8.

John Shackford Grouard ⊕ Nantucket, Mass.; Harvard University Medical School, Boston, 1889; on the staff of the

Nantucket Cottage Hospital; aged 60, died, May 31, in Boston, following an operation on the gallbladder

Lewis Byron Dawley, Westtown, N Y, Eclectic Medical Institute, Cincinnati, 1880, member of the Medical Society of the State of New York; aged 65, died, June 2, at the Roosevelt Hospital, New York, of splenomegalia

George Wootson Lacy, Kirkmansville, Ky, University of Louisville School of Medicine, 1909, member of the Kentucky State Medical Association, aged 43, died, in June, at a hospital in Louisville, following a long illness

Arthur Thomas Pritchard ⊕ Asheville, N C, Jefferson Medical College of Philadelphia, 1905, served during the World War, on the staff of the French Broad Hospital, aged 45, died, May 26, of heart disease

John Paxton Tillery, Knoxville, Tenn; University of Tennessee College of Medicine, Memphis, 1889, member of the Tennessee State Medical Association, aged 63, died suddenly, May 29, of heart disease

Robert T. Glassell, Bowling Green, Va, University of Maryland School of Medicine, Baltimore, 1886, member of the Medical Society of Virginia, aged 72, died, June 4, of carcinoma of the parotid gland

William Routt Cravens ⊕ Bloomfield, Ind, Kentucky School of Medicine, Louisville, 1892, Central College of Physicians and Surgeons, Indianapolis, 1896, aged 58, died, June 4, of cerebral hemorrhage

Isaac S. Bowers, Perrysburg, Ohio, Detroit Medical College, 1881, member of the Ohio State Medical Association, part owner of a hospital bearing his name, aged 70, died June 3, of heart disease

Samuel Van Kirk Kennedy ⊕ Warren, Ohio, Ohio Medical University, Columbus, 1905, on the staffs of the Warren City, and St Joseph's Riverside hospitals, aged 45, died, May 28, of pulmonary tuberculosis

James Pervine Atwood, Baker, Ore, Willamette University Medical Department, Salem, 1870, College of Physicians and Surgeons, New York, 1874, aged 81, died, June 15, of cerebral hemorrhage

Lamar Matthew Power, Detroit, College of Physicians and Surgeons, Chicago, 1903, aged 48, died, June 5, at the Providence Hospital, of injuries received when he fell from a second story window

Marion MacMillan Kershaw, Augusta, Ga, Medical College of the State of South Carolina, 1903, member of the Medical Association of Georgia, aged 50, died, June 1, of tuberculosis of the hip

George F. Kelly ⊕ Milwaukee, Chicago College of Medicine and Surgery, 1915, formerly on the staff of the Marquette University Hospital, aged 45, died, May 30, at a hospital in Wauwatosa

Michael Edward O'Donovan ⊕ New York, Medical Department of Columbia College, New York, 1891, aged 70 died in June, of spinal osteoarthritis, acute myelitis and carcinoma of the right lung

Edward L. Mitchell ⊕ Monmouth, Ill, Rush Medical College, Chicago, 1882, aged 71, died, June 9, at Augustana Hospital, Chicago, following an operation for intestinal obstruction

Louis Desire Onesiphore Jacques, Worcester, Mass Laval University Faculty of Medicine, Quebec, Que, Canada, 1895, on the staff of the Louis Pasteur Hospital, aged 54, died, May 30

John Wesley Anderson, Odon, Ind, Kentucky School of Medicine, Louisville, 1881, member of the Indiana State Medical Association, aged 72, died suddenly, June 3, of heart disease

Henry S Llewellyn, La Grange Ill, Hahnemann Medical College and Hospital, Chicago, 1892, Chicago Homeopathic College, 1893, aged 68, died suddenly, June 21, of heart disease

Lewis Duncan Mason, Brooklyn, Long Island College Hospital, Brooklyn, 1886, member of the Medical Society of the State of New York, aged 84, died, June 11, of edema of the lungs

George Johnson Boyd ⊕ Beaver Falls, Pa, University of Michigan Medical School, Ann Arbor, 1889, on the staff of the Providence Hospital, aged 66, died, May 29, of parotitis

William Adrian Thomas, Detroit, *Ohio* State University College of Medicine, Columbus, 1925, aged 29 died April 30, at the Delray Industrial Hospital, of acute endocarditis

William Seitz, Portsmouth, Ohio, Eclectic Medical Institute, Cincinnati, 1908, aged 48, died, in June, at a hospital in Cincinnati, of hiccup following an operation

Robert Kains, St Thomas Ont, Canada, Trinity Medical College, Toronto, 1872, M R C S, England, 1875, for ten years county jail surgeon, aged 78, died, May 3

Oscar Turner Harris, Grayson Ga, Georgia College of Eclectic Medicine and Surgery, Atlanta, 1901, aged 52, died, May 28, at Clarkston, of cerebral hemorrhage

Norman Call, Brookline Mass, Medical Department of Columbia College, New York, 1872 aged 82, died in May, at the home of his niece in Brunswick, Maine

Louis E Alderman, Brooklyn, Eclectic Medical College of the City of New York 1895, aged 56, died in April, of skull fracture received in an automobile accident

Joseph Beisman ⊕ Detroit, St Louis Medical College, 1890 aged 63 died, May 31 at the Highland Park (Mich) General Hospital, of cerebral hemorrhage

Charles Theophilus Maas, New Brunswick, N J, Medical Department of the University of the City of New York, 1886, aged 75, died, June 2 of hemiplegia

Charles Dwight Freeman ⊕ Medina, Ohio, Bellevue Hospital Medical College 1884 aged 74, died, April 22, at the Lodi (Ohio) Hospital, of arteriosclerosis

Richard Rutt Hopkins, Toronto, Ont, Canada, Trinity Medical College Toronto 1887, on the staff of the Grace Hospital, aged 72 died suddenly, May 5

Noah E. Brumbaugh, Seven Mile, Ohio Eclectic Medical Institute, Cincinnati, 1859 Civil War veteran, aged 94, died, May 23, as the result of a fall

William Ulysses McKenzie, Centerpoint Tenn, Vanderbilt University School of Medicine, Nashville, 1877, aged 72, died, April 2 of heart disease

Robert Hudson Crabb ⊕ Leonard Texas, University of Tennessee College of Medicine, Memphis, 1892 aged 67, died, June 5, of heart disease

Clarence Edwin Vaughan, Athol, Mass (licensed Massachusetts, 1924) aged 30, died, June 11, of injuries received in an automobile accident

William A. Halbert ⊕ Springfield, Ill, College of Physicians and Surgeons Keokuk 1882, aged 66 died May 30 at St John's Hospital

Thomas H. O'Rourke, Detroit Detroit College of Medicine and Surgery, 1896, aged 64, died May 21, of pneumonia, following influenza

Magnus Wilkie Kyde, Helena Mont, Rush Medical College, Chicago 1921, aged 31, died, June 7 of potassium cyanide poisoning

Robert Howell Preston Wright, Junction, Texas (registered, Texas, under the Act of 1907), aged 55, died, June 9, of acute myocarditis

Nathan W Melton, Wayne City, Ill, American Medical College, St Louis, 1883 aged 85, died, June 17, of cerebral hemorrhage

Jacques Daniel de Chantreau ⊕ San Francisco, University of Paris France, 1891, aged 61, died June 10, of chronic myocarditis

Jacob Oren Malsbury, Peru, Ind, Kentucky School of Medicine, Louisville, 1890, aged 62, died, May 21, following a long illness

Helena M Mullhaupt, St Marys, Pa, Woman's Medical College of Pennsylvania, 1880 aged 67, died, May 26, of pneumonia

John C Taylor, Canton, Ky, University of Tennessee College of Medicine, Memphis, 1889, aged 59, died, May 30, of nephritis

Daniel Lyons, Ashland, Ill, American Medical College, St Louis, 1883, aged 79, died, May 26, of carcinoma of the nose

Robert P. R Huyett, Shillington, Pa, Jefferson Medical College of Philadelphia, 1878, aged 71, died, May 3

Harry William Purdy, Nogales, Ariz Bellevue Hospital Medical College, New York, 1882, died, March 24

Abner A. Alford, Newhope, Ark, Fort Worth (Texas) School of Medicine, 1904, aged 72, died, May 14

E D Ehrman, Rockport, Ind (licensed, Indiana, 1897), aged 73, died, June 8, of cirrhosis of the liver

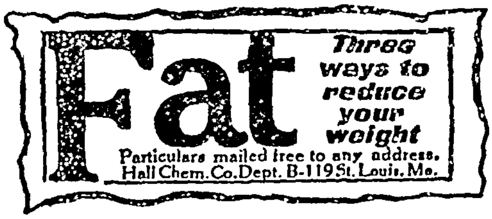
Adolph Hans Olsen, Oak Park, Ill (licensed, Illinois, 1898), aged 57, died, May 15

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

TWO OBESITY FAKES DODGE FRAUD ORDERS

Hall's Tablet Triturates.—The Hall Chemical Company of St. Louis has for many years sold a fake cure for obesity, which it called "Hall's Tablets Triturates." As is common in the nostrum business, the composition of the preparation has varied. When analyzed in 1920, the product was found to be essentially a mixture of ginger, nux vomica, aloes and chalk. In 1926, the essential active ingredients of the Hall preparation were aloes, ginger and phenolphthalein.



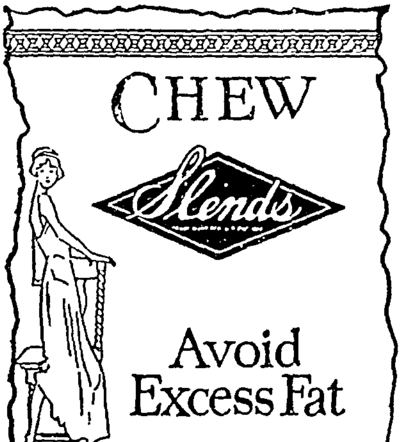
Fat

Three ways to reduce your weight

Particulars mailed free to any address.
Hall Chem.Co.Dept. B-119 St. Louis, Mo.

Jan. 24, 1927, the Post Office Department called on the Hall Chemical Company to show cause why a fraud order should not be issued against it, and gave the concern a month to prepare its case. In about two weeks' time A. N. Gaebler, proprietor of the Hall Chemical Company, submitted an affidavit to the Post Office Department declaring that the sale through the mails of Hall's Tablets Triturates had been absolutely discontinued and abandoned, and would not be resumed under that name, or any other name. He declared, further, that he had directed the Postmaster at St. Louis to return to the writers all mail hereafter received, addressed to the Hall Chemical Company, with the legend "Out of Business" stamped or written on the envelop.

Slends Chewing Gum.—Readers of this department of The Journal may remember that in the issue of Nov. 13, 1926, under the title "More Fat Cure Fakery," there was an article dealing with two quack "obesity cures" of the chewing gum type. One of these was "Slends," put on the market by Slends, Inc., and by the Heath Products, Inc. Slends was analyzed in the A. M. A. Chemical Laboratory and was reported to be essentially chewing gum (chicle), coated with varying amounts of a mixture containing sugar and phenolphthalein, flavored, and containing a small amount of vegetable extractives.



CHEW

Slends

Avoid Excess Fat

Sept. 14, 1916, the Post Office Department called on Slends, Inc., the Heath Products, Inc., and E. M. Heath, president, and C. L. Heath, secretary and treasurer, to show cause why a fraud order should not be issued against them for selling Slends through the mail, under representations that were alleged to be false and fraudulent. Jan. 3, 1927, Ernest M. Heath and C. L. Heath submitted an affidavit to the Post Office Department declaring that the business of selling Slends through the mails had been entirely discontinued and abandoned, and would not be resumed under that name or any other name, and that neither of these men would hereafter engage in the sale of any fat-reducing preparation through the mails.

There is, of course, nothing in the action of either the Hall Chemical Company or Slends, Inc., to prevent either, or both, of these concerns continuing to sell their products through the drug stores. This course of action has been taken before by quacks who have signed similar affidavits in order to avoid the unpleasant consequences of the issuance of fraud orders.

CACTINA PILLETS AGAIN

Twenty years ago preparations of *Cactus grandiflorus*—the Mexican night-blooming cereus—had considerable vogue, chiefly because of the extravagant advertising claims made for two preparations said to be derived from it—"Cactin" and "Cactina." Sollmann, in one of the chapters of his "Broader Aims of the Council on Pharmacy and Chemistry" (The Journal, July 4, 1908, p. 52) thus ironically describes the claims made for these preparations:

> "Should the heart be too slow, cactus quickens it; if the heart is too fast, cactus slows it; should the heart be too weak, cactus strengthens it; if the heart is too strong, cactus weakens it; does the heart wobble, cactus steadies it; if the heart is normal, cactus does not meddle with it."

In 1907, R. A. Hatcher discussed the conflicting evidence of those who had reported on the composition and action of *Cactus grandiflorus,* stating that he had been unable to find a single conclusive piece of pharmacologic work showing that the drug possesses any physiologic action whatever, and that, on the other hand, the work of Houghton pointed to its entire uselessness and that of Gordon Sharp showed it to be wholly inert (The Journal, Sept. 21, 1907, p. 1021).

In 1908, S. A. Matthews reported that when administered to a dog intravenously large doses of cactina cause a slight fall in blood pressure and depress both the respiration and circulation. He reported, further, that from experiments on guinea-pigs, rabbits and himself, cactin in one thousand times the recommended dose is physiologically inert (The Journal, March 21, 1908, p. 956; April 4, 1908, p. 1140).

In 1910, the Council on Pharmacy and Chemistry reviewed the evidence for the value of *Cactus grandiflorus* and concluded that there was no evidence to make any available preparation a reliable remedy (The Journal, March 12, 1910, p. 888). In 1910, also, E. P. Lyons and C. L. Quall made a large number of experiments with cactina on animals, on healthy men and on patients in bed, and were unable to demonstrate any effect on the heart beat or the circulation (The Journal, Aug. 6, 1910, p. 455).

Because previous work had been questioned on the ground that it did not deal with Mexican night-blooming cereus, Hatcher and Bailey in 1911 procured authentic specimens of the true Mexican variety and, using their own preparation as well as representative preparations bought in the open market, in a series of experiments on cats, dogs and frogs, conclusively showed the drug to be inert, obtaining no perceptible effect even from the administration of most colossal doses by mouth to the animals (The Journal, Jan. 7, 1911, p. 26).

As a result of the thorough exposure of the worthlessness of cactus preparations, proprietary houses have generally abandoned their exploitation. While "Cactin" (now called "Cactoid") is still offered for sale and is still the "joker" in a proprietary morphine-scopolamine preparation, no claims for it are advanced. In the case of "Cactina Pillets", however, the proprietor—the Sultan Drug Co.—still finds it profitable to continue advertising in a certain class of so-called medical journals and to continue making the claims that have been so thoroughly disproved.

It is to be presumed that those who use Cactina Pillets do so because they have accepted the claims contained in the advertising at their face value, have done this without informing themselves of the published evidence, and have used this worthless preparation without adequately controlling the expected effects on their patients. To these, a report by Dr. Clifton B. Leech from the Cardiac Department of the Union Hospital in Fall River will be of interest (*Boston M. & S. J.*, March 10, 1927, p. 394). Dr. Leech first tried the drug in doses of from one to 300 pillets on groups of healthy persons including himself, and observed no effects. He then tested the pillets in patients presenting the signs and symptoms for which cactina is recommended—ten patients with extrasystoles, four patients with constrictive pain in the precordium, ten patients with paroxysmal, constrictive, substernal pain, five patients with effort syndrome, four patients with neurocirculatory disturbances, ten patients with myocardial weakness, and two patients with auricular fibrillation and marked congestive failure. In no case did he observe any beneficial or otherwise distinctive effect from the drug, and he concluded that Cactina Pillets are no more than a placebo, thus agreeing with Sollmann, who twenty years ago called the preparation a psychic cardiac tonic.

It is a sorry commentary on the intelligence of some members of the medical profession that it is necessary to do clinical and experimental work to prove that the moon is not and never was composed of green cheese. But it seems necessary.

Correspondence

GRADUATE TEACHING IN DERMATOLOGY

To the Editor:—Dr. Louis B. Wilson has performed a valuable service in his recent painstaking review of graduate medical education in Europe (The Journal, June 11). In his brief reference to dermatology in America, however, he has made some misstatements which show his unfamiliarity with the situation in this country.

"It is difficult to explain," Dr. Wilson writes, "why dermatology has been so slow in developing in America." With such a statement I must take issue, feeling that dermatology has developed as fast as other specialties, while in recent years it has made notable strides.

He is evidently not aware of the fact that the oldest dermatologic society in the world is the New York Dermatological Society, founded in 1869; also that the American Dermatological Association, founded in 1876, is the fifth in age of the sixteen component bodies of the Congress of American Physicians and Surgeons. Dr. Wilson might have been surprised to see three hundred or more at the opening meeting of the Section on Dermatology and Syphilology at the recent Washington session. He might be interested to know that at the recent annual meeting of the New York State Medical Society the newly organized Section on Dermatology and Syphilology had a larger attendance than any of the other special branches of medicine. Does he know of the flourishing condition of the section at the New York Academy of Medicine, where the attendance has been so overwhelming that it had to be limited by cards of invitation? Does he know of our most successful international congress of dermatology held in the country twenty years ago? Does Dr. Wilson know of the high regard in which the *Archives of Dermatology and Syphilology* is held by our European colleagues and that our official journal under various names has been published since 1870?

Dr. Wilson's statement that our imagined lack of progress "used to be thought" due to lack of material is hardly accurate. Whatever our shortcomings may have been, they were at least never due to lack of clinic material, which has always been most abundant.

The statement that "many of the larger cities in the United States are without competent dermatologists" is absolutely incorrect at the present time, as there are few cities of a hundred thousand or more without the services of a well trained physician in this branch of medicine.

Finally, I must take most emphatic issue with the statement that "very few places in the United States provide the graduate students with the opportunity of studying more than the mere rudiments of the specialty." At the present time thorough graduate instruction in dermatology-syphilology is given in a number of institutions scattered over the country. Such a list, comprising a dozen medical schools approved by the Council on Medical Education and Hospitals, has been published in The Journal. In New York City alone, graduate instrucation is given in three undergraduate colleges, two postgraduate institutions and one special hospital. It may be of interest to know that the first branch of medicine to be taught to graduates on an ambitious scale in Columbia University was dermatology. The great success achieved by this work under the late Dr. John A. Fordyce was followed by similar activities in other branches of medicine at Columbia. At the New York University and the Post-Graduate Hospital, complete courses of graduate instruction are now given in dermatology-syphilology, including clinical dermatology, histopathology, mycology, roentgen-ray and other forms of physical therapy, and photography. Similar instruction is given in both the graduate and the undergraduate departments at the University of Pennsylvania. One of the most successful schools for graduate teaching is that of the University of Michigan, where a most thorough graduate training is given during a residence of four years.

It is no longer necessary to go abroad for graduate instruction in this specialty. In fact, there are eminent teachers conducting graduate courses who themselves received all their training in this country. We are proud of the advances of recent years in this specialty, one of which is graduate instruction.

Howard Fox, M.D., New York.

THE COUNCIL ON PHYSICAL THERAPY

To the Editor:—At the last day's session of the Section on Orthopedic Surgery, during the recent Washington session, Dr. A. H. Freiberg of Cincinnati read a paper on the relationship of physical therapy to orthopedic surgery. It contained excellent points and was discussed by a number of men, all of whom agreed with Dr. Freiberg that heavy responsibility rests on orthopedic surgeons to set physical therapy straight. None of these men made the slightest reference to the Council on Physical Therapy, which is trying to solve the problem in a broad manner and to establish a proper relationship of physical therapy and the general profession. In contrast to the opinions voiced by some orthopedic men that a class of lay "physical therapeutists" be developed, working under their direction, the Council on Physical Therapy advocates that physical therapy be administered, or at least prescribed, by medical men especially trained in this field.

Dr. Joseph F. Smith of Wisconsin, whose resolution before the House of Delegates at the Atlantic City session in 1925 was responsible for the creation of the Council on Physical Therapy, happened to be present at the orthopedic session and, in subsequent conversation, shared with me his amazement at the fact that in spite of a number of excellent reports by and about the Council on Physical Therapy published in The Journal, its existence should still seem unknown to a whole section of the American Medical Association.

May it not be appropriate to call attention to the work of the Council? It endeavors earnestly to sift the chaff from the wheat in physical therapy and place it within the reach of the entire profession for the best interests of their patients, and should command the fullest cooperation of every broad minded physician.

Richard Kovacs, M.D., New York.

DIAPHRAGMATIC PLEURISY ARACHNIDISM

To the Editor:—I have received from Dr. Emil Bogen an interesting reprint and copy of a letter to you relative to a case reported by me (The Journal, April 30, p. 1395) as one of bilateral diaphragmatic pleurisy simulating perforated gastric ulcer. Dr. Bogen suggests that it was a case of arachnidism. Such a diagnosis was considered before operation and the history of spider bite included as relevant. The day following operation, however, the appearance was that of a respiratory infection, with leukocytosis of 19,000; and this appearance became more marked as the respirations rose from 30 to 48 per minute. The later occurrence and persistence of definite, clear and unmistakable dry pleural friction rubs anteriorly, posteriorly and in the axilla on both sides at the level of the diaphragm just about indisputably establish a diagnosis of bilateral diaphragmatic pleurisy. To suppose an arachnidism also would necessitate the supposition that the pleurisy developed soon after the arachnidism and without producing any noticeable change in the picture—a view that appears to me unlikely. This belief has been strengthened by learning of a series of similar cases occurring in Philadelphia hospitals a few years ago, in several of which operations were performed only to have a final diagnosis of bilateral diaphragmatic pleurisy made.

George L. Carrington, M.D., Durham, N. C.

Queries and Minor Notes

Aonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SUICIDE IN CALIFORNIA

To the Editor:—What explanation can you give, if any, for the comparatively high suicide rate of cities located in California?

H. A. D., Buffalo.

Answer.—This inquiry was referred to Mr. L. E. Ross, Director and State Registrar, Bureau of Vital Statistics, California State Board of Health, who replies in part as follows:

"There has as yet been no satisfactory explanation of the fact that our suicide rate is about double that of the country as a whole. People are killing themselves more than twice as fast as in other states. It is not the natives who are doing it. One fourth of the people living in this state are natives; but only one seventh of the suicides are among natives. 'Normal' is about fifteen suicides per year in every hundred thousand adult population; but the rate in California is thirty-two. During the last three years no less than 2,600 people have killed themselves in this state." (This is from a survey made several years ago.) "The rate for natives was 15; for persons born in other states and living in California the rate was 24; and for the foreign-born it was 35.

"Some of the common causes for suicide are financial reverses, disappointment in love, ill health, impending disgrace, unemployment, fear and insanity. Data are not available to show the proportion of lives claimed by each of these causes, but in looking about for an explanation of our excessive suicide rate, we are inclined to attribute a heavy proportion to ill health. Large numbers of health seekers, especially among the tuberculous, have migrated to California, many of them arriving practically without funds, expecting to secure light employment to defray expenses. There is real tragedy in such cases. A substantial proportion of our high suicide rate can safely be assigned to this group, many of whom destroy themselves when they find that a salubrious climate will not do for them what medical science has failed to accomplish. Financial difficulties are no doubt worse among the males than the females, a larger proportion of men than women coming without funds sufficient for their support, which accounts partly for the excess suicide rate among the males in this state.

"Unemployment can scarcely be assigned any portion of the excess rate, except for the class just mentioned. However, the competition resulting from an excess labor supply is evidenced in the suicide rates for the different age groups. These conditions do not affect Californians any more than people in other states, and do not unduly contribute to our high suicide rate.

"The other causes, such as financial reverses, disappointment in love, and insanity, are no more common in one place than in another, and thus practically everything but ill health is eliminated. Is this alone sufficient to account for all the excess in the California suicides? It may be, but such is not believed to be the case. There are probably other reasons which cannot be discovered through analysis of the vital statistics."

TETANUS ANTITOXIN AND RABIES

To the Editor:—I have recently noticed that many practitioners and some hospitals, both homeopathic and allopathic, are using tetanus antitoxin in the prophylactic treatment of rabies. Is there any sound basis for this from either the theoretical or practical aspects?

Andrew J. L. Guay, M.D., Philadelphia.

Answer.—Tetanus antitoxin is without any effect in preventing rabies. There is no practical or theoretical basis for concluding that tetanus antitoxin can have any direct effect on rabies. The only conceivable reason for using tetanus antitoxin in persons bitten by animals suspected of being rabid would be to guard against the possibility of infection with the tetanus germ at the same time; but this would seem to be a rather remote possibility.

PRURITUS AFTER SULPHARSPHENAMINE

To the Editor:—I have a patient who, one week following the last treatment of a course of sulpharsphenamine, developed a general pruritus, which is very unpleasant. What can I do to relieve him? Please omit name.

M.D., Illinois.

Answer.—When a general pruritus develops from any of the arsphenamines it is a danger signal and any further use of arsphenamine should be cautious. Antipruritic applications may be comforting, such as starch baths, containing 2 liters of boiled starch to the bath. Or the patient may be sponged with calamine lotion, consisting of zinc oxide and calamine, each 30 Gm.; glycerin, 15 cc.; water, to make 500 cc. Or sponge with a liniment, such as olive oil, 200 cc.; lime water to make 500 cc. But the only way to stop the condition is to stop the arsphenamine, and the pruritus is a signal to stop the arsphenamine if it can be done.

PHOSPHATURIA

To the Editor:—What is the cause and treatment of a persistent phosphaturia that has existed for more than six months without signs or symptoms, other than a urinalysis, of its existence? Physical examination does not reveal anything, even focal infection. The patient is apparently a well, normal individual, and came to me on account of noting the whitish color of the urine while voiding. The patient is of normal weight, works every day, and does not complain of any trouble whatever. Repeated attempts to acidify the urine by different chemical agents, including sodium acid phosphate, have proved futile. The urine is absolutely loaded with the earthy phosphates and is precipitated when voided. There is no cystitis.

W. I. Stockdon, M.D., Glendon, N. C.

Answer.—Phosphaturia cannot as yet be called a clinical entity, and opinion regarding its causation and treatment shows considerable diversity. Efforts should, of course, be directed toward lessening the conditions that favor the precipitation. An acidic diet with meat, bread and fat predominating, and vegetables and fruits suppressed, might help in acidifidation of the urine. The administration of calcium, in the form of carbonate, from 1 to 2 Gm. three times a day, has been recommended by von Noorden as lessening the elimination of phosphate in the urine by holding it in the bowel. Tobler believes that there is an excess of calcium in the system, because of endocrine disturbance, and that the disproportion in elimination of calcium to phosphate leads to production of the insoluble form. He advises a calcium-poor diet consisting, in addition to the diet mentioned, of rice, potatoes and sugar, with avoidance of milk, eggs and leguminous products. Excepting that it might lead to formation of a phosphate stone, the condition is really of no consequence and hardly deserves much attention.

EPINEPHRINE WITH HYPOPHOSPHITES

To the Editor:—What is the proper value of the use of the solution of epinephrine hydrochloride when given by mouth and, if of any value, could it be combined for instance with a solution of hypophosphites as a reconstructive after any wasting diseases such as typhoid or influenza? Please omit name.

M.D., South Dakota.

ANSWER.—Epinephrine given by mouth has practically no effect, unless relatively large doses are given (from 0.002 to 0.005 Gm.) in gelatin capsules on an empty stomach. Then a transient rise of blood pressure may be produced; this effect is, however, not constant, and is liable to be accompanied by epigastric and substernal pain and nausea, especially in the presence of hyperthyroidism. It is probably without value as a "tonic" or "reconstructive." The lack of value of the hypophosphites as tonics and reconstructives has been demonstrated most thoroughly ("The Hypophosphite Fallacy," Report of the Council on Pharmacy and Chemistry, THE JOURNAL, Sept. 2, 1916, p. 760).

CALIBRATION OF MERCURY SPHYGMOMANOMETER

To the Editor:—1. Is it true that accuracy requires that each mercury sphygmomanometer be carefully hand calibrated? 2. Is it not a fact that the unit of pressure in blood pressure measurement is the hydrostatic pressure exerted by a column of mercury 1 mm. high, and that, therefore, the scale should be a true millimeter scale; that is, the distance between the 0 and the 300 millimeter graduations, for example, should actually measure 30 cm.? 3. Does accuracy demand that the lumen of the mercury tube be bored with the utmost precision to prevent any variation in its diameter? 4. Is it not a fact that even great variations in the diameter of the lumen of the mercury tube (so long as there is no constriction great enough to prevent the flow of mercury) will make no difference in the accuracy of reading? 5. In other words, how can there be any difference between the hydrostatic pressure exerted by a 200 mm. column of mercury in an irregular tube and that exerted by 200 mm. of mercury in a tube so bored that the lumen is entirely uniform throughout its length?

DEXTER H. WITTE, M.D., Milwaukee.

ANSWER.—1. Yes.

2. By a pressure of 1 mm. of mercury is meant the hydrostatic pressure exerted by a column of mercury 1 mm. high, and consequently a pressure of 100 mm. of mercury is the hydrostatic pressure exerted by a column of mercury 100 mm. high, etc. Then when a pressure of 100 mm. of mercury is applied to the manometer, the vertical distance between the levels of the mercury in the reservoir and in the tube measures 100 mm., but the distance from the zero graduation on the scale to the mercury level in the tube is less than 100 mm., since the scale is fixed and does not follow the changes in mercury level in the reservoir which accompany changes in the applied air pressure.

3. No, if the instrument is calibrated.

4. The magnitude of the variations in bore makes no difference in the accuracy if the instrument is calibrated. Of course, under certain conditions, such as a bore as small as 1 mm. and very dirty mercury, the column might stick and air pockets form.

5. There is no difference.

In the following explanation, a manometer with a reservoir of uniform, circular cross-section is assumed. This simplifies the discussion by requiring consideration only of variations in the glass tube, and does not invalidate the argument at all. The scale is assumed to be fixed permanently with its zero graduation at the zero level of the mercury in the tube and in the reservoir.

In figure 1 is shown diagramatically an ideal manometer having a tube of uniform circular cross-section. Such a tube cannot be obtained commercially, but instead, the commercial tubes vary in bore as indicated in an exaggerated manner in the manometer shown in figure 2.

The position of the scale graduations can be determined for the ideal manometer of figure 1 as follows: If initially no differential pressure is applied to this manometer, the level in the reservoir is the same as the level in the tube, which level is designated as the zero level of the manometer. Suppose that a differential pressure of 20 mm. of mercury be applied to this manometer. The mercury level in the reservoir will fall and the level in the tube will rise until the vertical distance between them measures 20 mm. The 20 mm. graduation of the scale is marked at the point to which the mercury has risen. Similarly all the other scale graduations can be determined.

However, for this ideal manometer, having both tube and reservoir of perfectly uniform bore, the height to which the mercury would rise in the tube for any given pressure could have been computed, provided the ratio of the cross-sectional areas of the reservoir and tube were known. Assume for the sake of argument that the cross-sectional area of the reservoir is nineteen times as great as the cross-sectional area of the tube. Since the volume of mercury which flows out of the reservoir as the level falls from the zero level to the level *AA* equals the volume which is required to fill the tube from the 0 graduation to the 20 mm. graduation, the rise in the tube and the fall in the reservoir must be in the inverse ratio of their cross-sectional areas. Hence the rise in the tube is $\frac{19}{19+1} \times 20 = 19$ mm. and the fall in the reservoir is $20 - 19 = 1$ mm. Also, since the scale remains fixed, the distance from the 0 to the 20 mm. graduation measures 19 mm. Similarly, the positions of any or all the graduations on the scale can be computed and they will be found to be equally spaced by an amount $^{19}/_{20}$ as great as the corresponding number of millimeters pressure.

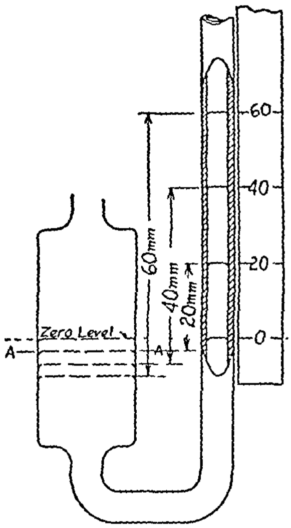


Fig. 1.—Ideal manometer.

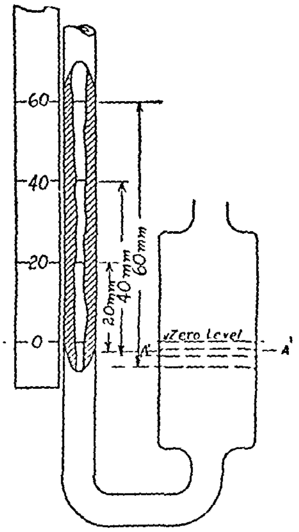


Fig. 2.—Commercial manometer.

This shows that if the tubes and reservoirs of the manometers were perfect, it would not be necessary to calibrate the scales individually.

In the actual manometers, however, it is necessary to calibrate the scale individually owing to irregularities in the bore of the tube. Consider what will happen if the procedure just described is followed with the manometer shown in figure 2, in which the reservoir is circular and of the same diameter at all cross-sections, but in which the bore of the tube varies as shown in a somewhat exaggerated fashion. Initially, for zero differential pressure, the mercury stands at the same level in the tube and reservoir and the zero of the scale is also set to this level. Now apply a pressure of 20 mm. of mercury to the manometer, as before.

The mercury falls in the reservoir from the zero level to the level *A'A'* and rises in the tube until the difference in the two levels is exactly 20 mm. The amounts which the mercury will fall in the reservoir and rise in the tube cannot be computed for this manometer, since we do not know how the bore of the tube varies. Consequently, the only way in which the 20 mm. graduation can be located accurately is by applying a known pressure of 20 mm. of mercury and marking the level to which the mercury rises. This procedure is called "calibrating the manometer."

In figure 2, the bore of the tube between the 0 and the 20 mm. graduations is less than the bore of the ideal tube shown in figure 1. Hence a smaller volume of mercury is required to fill the tube between these two graduations than was required for the ideal tube, and so the mercury level will fall less in the reservoir while the level is rising in the tube from the 0 to the 20 mm. graduation than it did for the ideal manometer. Consequently, the 20 mm. graduation will be higher on the scale than for the manometer shown in figure 1.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alabama: Montgomery, July 12-15. Chairman, Dr. S. W. Welch, Montgomery.

Connecticut: Hartford, July 12-13. Sec., Dr. Robert L. Rowley, 79 Elm Street, Hartford.

District of Columbia: July 12. Sec., Dr. Edgar P. Copeland, Suite 110, 1801 Eye Street, Washington.

Hawaii: Honolulu, July 11-14. Sec., Dr. James A. Morgan, Young Bldg., Honolulu.

Massachusetts: Boston, July 12-14. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

Missouri: St. Louis, July 13-15. Sec., Dr. James Stewart, Jefferson City.

South Dakota: Huron, July 19. Dir. Medical Licensure, Dr. H. R. Kenaston, Bonesteel.

Washington: Seattle, July 11. Basic Science Examination, Seattle, July 7-8. Ass't. Director, Mr. George L. Berger, Olympia.

West Virginia: Martinsburg, July 26. Commissioner, Dr. W. T. Henshaw, Charleston.

Kansas February Examination

Dr. A. S. Ross, secretary of the Board of Medical Registration and Examination, reports the written examination held at Topeka, Feb. 8, 1927. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Three candidates were examined, all of whom passed. Seven candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
Rush Medical College	(1926)	92
University of Kansas School of Medicine	(1926)	90.1
St. Louis University School of Medicine	(1926)	88.4

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado School of Medicine	(1926)	Colorado
Bennett Medical College	(1910)	Oklahoma
Rush Medical College	(1926)	Illinois
Drake University College of Medicine	(1910)	Iowa
University of Michigan Medical School	(1923)	Michigan
Creighton University College of Medicine	(1924)	Nebraska
University of Oklahoma School of Medicine	(1925)	Oklahoma

Pennsylvania January Examination

Mr. C. D. Koch, director, Professional Education Bureau of the Pennsylvania Board of Medical Education and Licensure, reports the written and practical examination held at Philadelphia, Jan. 25-27, 1927. The examination covered 12 subjects and included 120 questions. An average of 75 per cent was required to pass. Of the 67 candidates examined, 63 passed and 4 failed. Seven candidates were licensed by reciprocity and 4 by endorsement of their credentials. The following colleges were represented:

PASSED

College	Year Grad.	Number Passed
Howard University School of Medicine	(1925)	2
Loyola University School of Medicine	(1926)	1
Rush Medical College	(1926)	1
Tulane University of Louisiana School of Med.	(1923), (1925)	2
College of Physicians and Surgeons, Baltimore	(1908)	1
University of Maryland School of Medicine	(1925)	2
Harvard University	(1924), (1925)	2
Kansas City Medical College	(1905)	1
Washington University School of Medicine	(1925)	1
University of Buffalo School of Medicine	(1909), (1916)	2
North Carolina Medical College	(1913)	1
Hahnemann Med. College and Hosp. of Philadelphia	(1920)	1
Jefferson Medical College of Philadelphia	(1913), (1916), (1924), (1925, 2)	5
Medico-Chirurgical College of Philadelphia	(1914)	1
Temple University School of Medicine	(1920), (1925, 5)	6
University of Pennsylvania Sch. of Med.	(1924, 9), (1925, 8)	17
University of Pittsburgh School of Medicine	(1925)	1
Womans Medical College of Pennsylvania	(1925)	3
Meharry Medical College	(1925)	1
University of Texas School of Medicine	(1924)	1
Medical College of Virginia	(1924)	1
University College of Medicine, Richmond	(1912)	1
McGill University Faculty of Medicine	(1924)	3
Univ. of Toronto Faculty of Med.	(1894), (1923, 2), (1924)	4
University of Koenigsberg, Germany	(1924)*	1
National University of Ireland, Cork	(1923)	1

FAILED

College	Year Grad.	Number Failed
Chicago College of Medicine and Surgery	(1912)	1
Chicago Hospital College of Medicine	(1917)	1
Leonard Medical School, Raleigh	(1897), (1906)	2

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
Yale University School of Medicine	(1924)	Maryland
Northwestern University Medical School	(1925)	Illinois
Tufts College Medical School	(1922)	Mass.
University of Michigan Homeopathic Medical School	(1918)	California
University of Pennsylvania School of Medicine	(1925)	New York
Temple [illegible]cine	(1922)	Delaware
Universi [illegible] of Medicine	(1920)	Virginia

ENDORSEMENT OF CREDENTIALS

College	Year Grad.	Endorsement with
Harvard University	(1924)	N. B. M. Ex.
Jefferson Medical College of Philadelphia	(1925)	N. B. M. Ex.
University of Pennsylvania Sc[illegible]	[illegible]	[illegible]
University of Virginia Departr[illegible]	[illegible]	[illegible]

* Verification of graduation in process.

Book Notices

Child Guidance. By Smiley Blanton, B.S., M.D., Director Child Guidance Clinic, Minneapolis, Minnesota, and Margaret Gray Blanton. Cloth. Price, $2.25. Pp. 301. New York: Century Company, 1927.

The Child Guidance Clinic of Minneapolis has achieved national note through the work of Dr. Smiley Blanton and Mrs. Blanton. Their common sense methods and conservative selection of a point of view, not entirely that of the behaviorist or the psychanalyst, and their successful results in the cases of numerous "problem children" sent to them for study, have made them recognized as authorities in the field concerned. In the present volume the various chapters discuss every phase of the training of the child, including his physical reactions to life, his mental reactions, and the attitude of the parents. Of especial value are the sections on discipline, on education concerning matters of sex, and on personal study of the child, all of which are discussed in a most interesting and delightful manner. Above all, the book emphasizes the importance of thinking with the point of view of the child, rather than with that of the parent. Unfortunately, most of the toys, most of the nursery equipment, and almost everything that is developed for the child is developed from the point of view of "sales-appeal" to the parent. Frequently the interests of the child are completely at variance with this point of view.

Health Supervision and Medical Inspection of Schools. By Thomas D. Wood, A.M., M.D., College Physician, Teachers College, Columbia University, and Hugh Grant Rowell, A.B., M.D., Physician to the Horace Mann Schools. Cloth. Price, $7.50 net. Pp. 637, with illustrations. Philadelphia: W. B. Saunders Company, 1927.

Within recent years there has been an increasing interest in the problem of school health supervision. Because of the intimate contacts of children in the schools, an easy path is opened for the spread of communicable diseases. In addition, in the school the opportunity is presented for the discovery and correction of the great mass of major and minor physical defects which handicap the pupil in mental and physical growth and in development. Modern school health work has availed itself of the progress that has been made in the fields of medicine and of education, so that much has been added to the traditional program of medical inspection. Examinations are more thorough, in many instances including, in addition to the routine physical inspection, urine and blood examinations, metabolic tests, and anthropometric measurements as well as the exact measurement of deficiencies in sight and hearing. In their book, the authors have presented the best methods used in the schools throughout the country in carrying on a program of health supervision. They give a thoroughly practical and comprehensive system. The procedures recommended are those which are best adapted to bring to the pupil the maximum of health, physical well being and healthful surroundings. The examinations necessary to determine the health and physical status of the child are discussed, and the duties of the physican, nurse and teacher in carrying them out are stressed. The provisions needed for the handling of the defective child are also dealt with in a most thorough manner. Frequently, the most difficult problem which the school authorities are called on to deal with is the means whereby the correction of ill health and physical defects can be brought about. The authors discuss the methods of handling this situation. In some instances, because of the scope of certain of the fields, there has necessarily been limitation of the material to the mere pointing out of the essentials, as in the chapters on mental and social hygiene and on mental tests. On the other hand, the authors have done much to show the many sides to the problem of health supervision in the school, and have discussed almost every phase of it to some extent. At times they have been at fault in bringing forward their material without drawing any definite conclusions from it. The book will be found most valuable to all those who are concerned with the health of the child in the school—to school physicians, nurses, administrative officers, teachers and mothers. It might serve as a useful textbook for those engaged in the teaching of school hygiene and sanitation.

Handbuch der normalen und pathologischen Physiologie: Mit Berücksichtigung der experimentellen Pharmakologie. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden, und A. Ellinger. Band XVII. Correlationen 3. (J/XVI-XXI. Wärme- und Wasserhaushalt. Umweltfaktoren. Schlaf. Altern und Sterben. Konstitution und Vererbung). Paper. Price, 84 marks. Pp. 1204, with 179 illustrations. Berlin: Julius Springer, 1926.

This is the last volume of the Normal and Pathologic Physiology that was sent for review. It is also the last volume of the series. But the series has not been published entirely. In fact, only six volumes have appeared and been reviewed in The Journal. Various physiologic odds and ends are discussed by twenty-eight contributors. This volume embraces articles on pathology and pharmacology of fevers and hypothermic states; hibernation; diabetes insipidus; water metabolism; the pathology and pharmacology of edema and inflammation; the physiologic action of light, including effects of the roentgen rays and of radium; influence of baths under normal and pathologic conditions; the physical factors and influence of climate; sleep and allied states (hypnosis and hypnotics); senescence; death, and the significance of constitution in the field of psychiatry. As indicated in reviews of some of the other volumes, the collaborative efforts of some of the German scientists in this field command not only our admiration but also our gratitude. A compilation and critical evaluation of the existing physiologic literature was sorely needed since the appearance of Nagel's Handbook, which is now antiquated. This set of books must be on the shelves of every institution that lays emphasis on graduate work in the biologic sciences. As a source of information of bibliographic references, this set of books (when all have been published) will be indispensable, although the cost of the volumes seems unusually high. As one reads through the volume with its many technical expositions and attempts at elucidating the nature of living processes in its diverse expressions, one is struck by the immense amount of effort designed to solve the problems. Von Haller certainly had an easy job when compiling his Elementa (1755) compared with the herculean task he might have imposed on himself in this age. Obviously the volumes bear a strong German impression. The absence of references to foreign (particularly American) investigators is no doubt due to the unavailability of the literature since the war because of the general poverty of the universities and their scientists.

Surgical Anatomy of the Human Body. Volume II, Upper Extremities, Neck, Shoulders, Back, Lower Extremities. By John B. Deaver, M.D., Sc.D., LL.D., Surgeon-in-Chief to the Lankenau Hospital, Philadelphia. Second edition. Cloth. Price, $12 per volume; $36 for the three volumes. Pp. 854, with illustrations. Philadelphia: P. Blakiston's Son & Company, 1926.

Anatomy is a vast subject, and unless one is constantly teaching it one is not likely to have detailed knowledge. The average student leaves medical school with only a confused jumble of terms to show for his two years of study. It is really the dead language course of the medical curriculum, and bears the same relation to surgical anatomy that postmortem pathology bears to living or surgical pathology. The one presents the "chassis" unassembled, its component parts represented by muscles, nerves, vessels and viscera, and a word memory to fix them. The surgeon learns his anatomy through the repeated visualization of structures and their relationships, and he continues to be conversant with anatomic detail long after he has forgotten the nomenclature. Surgical anatomy is the study of surface landmarks, the identification of living structures in situ, through an incision rather than when they are displaced by dissection, and it correlates anatomy with pathology. Deaver presents his material from the latter point of view, and in almost every description of importance he groups his facts about and shows their relationship to the surgery of the particular region under consideration. The text is a fine piece of work; the illustrations, while not colored, are many and excellent. The volume is limited to the extremities, neck, shoulder and back, which is a convenient arrangement for regional study.

Health Record for Children. By J. Theron Hunter, M.D. Cloth. Price, $1. Pp. 52. Baltimore: Williams & Wilkins Company, 1927.

An excellent, straightforward book, to be recommended to any mother who will write a few notes on her child's family and developmental history by jotting down illnesses as they come along. Each page covers a subject indicating to the mother the most important features to be recorded. There are charts for weight, dates and duration of colds and sore throats; and particularly suitable is the chart for temperature and a few other essentials which the parent should record in any acute infection. In a second edition certain details might well be rearranged; for example, the page for dates of walking, talking and illnesses would come more naturally immediately before the temperature charts instead of before birth.

Traité de physiologie normale et pathologique. Publié sous la direction G.-H. Roger, professeur de physiologie à la Faculté de médecine de Paris, et Léon Binet, professeur agrégé de physiologie à la Faculté de médecine de Paris. Tome VII. Sang et lymphe: Réactions d'immunité. Par. M. M. Ch. Achard, A. Besredka, et autres. Cloth. Price, 65 francs. Pp. 502, with illustrations. Paris: Masson & Cie, 1927.

This volume on normal and pathologic physiology deals with blood, lymph and immunity. It is a composite effort of eleven authors with chapters on the morphology of the blood, hemoglobin and its derivatives, respiratory albuminoids of invertebrates, blood plates, bone marrow, blood coagulation, hemorrhage, blood transfusion, the lacunar system (including edema and dehydration), lymph and lymph production, lymph glands, immunity (this chapter by Bordet), and anaphylaxis. Each chapter has limited literature references. The book as a whole is weakened by the absence of an index at the end so that the contents must be hunted up by the scant aid of the table of chapters. The chapter by Bordet on immunity is particularly good. It seems significant, however, that in such an ambitious monograph on the blood and lymph, with chapters on hemorrhage, edema and transfusion, there should be no chapter on the various anemias. One is also struck by the fact that in the chapter on the physiology and pathology of the blood plates no reference appears to be made to the recent work of Howell on the significance of the blood plates in hemophilia. The book as a whole, however, is readable, lucid, reasonably comprehensive and down to date.

Index and Handbook of X-Ray Therapy. By Dr. Robert Lenk, Privat-Dozent of Medical Roentgenology, University of Vienna. With a foreword by Professor Holzknecht. Translated by T. I. Candy, M.B., B.Ch., D.M.R.E., Hon. Radiologist, Royal Gwent Hospital, Newport, Mon. Cloth. Price, $2.25. Pp. 121. New York: Oxford University Press, 1926.

This is an English translation of an excellent handbook meant primarily to instruct the general practitioner by outlining the indications for roentgen-ray therapy, and secondarily for the roentgenologist by providing him with a definite and proved scheme for the treatment of diseases by roentgen rays. The book is arranged in two sections. In the first section the mode of action of roentgen rays, effects of treatment, including the various reactions, prognosis and adjuvant treatment, are considered in a clear, concise and practical manner. The second section concerns itself with the use of roentgen rays as the therapeutic agent of choice in some sixty selected diseases. These are arranged alphabetically and a brief statement concerning the mode of action, reactions, course, duration and result of treatment is made for each. The formulas are all in terms of the Holzknecht unit, which detracts from the value of the book to the specialist in this country, where other standards of dosage are more commonly used. However, the author anticipates this in his general discussion of treatment formulas and agrees that roentgen-ray therapy is not purely a technical problem but is subject to variation for each individual case. The book contains a wealth of material of great interest to the general practitioner who wishes to have some idea of the possibilities of roentgen-ray therapy, and enables him to advise his patient intelligently to seek this form of therapy and to discuss in a general way the many questions which are always asked of him. The author's experience with roentgen-ray therapy has been extensive, and there is probably more than the element of optimism when he suggests the use of roentgen rays in such conditions as gallstone colic, gastric ulcer, badly functioning gastro-enterostomy, and otosclerosis. Although the index does not include the contents of the second section, the diseases discussed are alphabetically arranged and are easily referred to. The superfluous and needless description of apparatus and a discussion of elementary physics usually found are omitted. For the practitioner the book fills a long felt want and contains an unusual amount of data to which he can quickly and profitably refer.

A Textbook of Exodontia: Exodontia, Oral Surgery and Anesthesia. By Leo Winter, D.D.S., Professor of Oral Surgery, New York University College of Dentistry. Cloth. Price, $7.50. Pp. 364, with 329 illustrations. St. Louis: C. V. Mosby Company, 1927.

This is a valuable book for the student or the practitioner working in the field of exodontia and minor oral surgery. The author treats the several divisions of the work with great care and thoroughness. Practical ideas mark the chapters dealing with pathology and diagnosis; anesthesia, both local and general; extraction of teeth that are in normal and abnormal position; technic; treatment of complications; removal of impacted teeth; treatment of fractures and dislocations, and accidents. They can be followed and carried out not only by the specialist but also by any one possessed of average professional skill and ability. The many photographic and roentgenographic illustrations further enhance the value of this work.

Ergebnisse der gesamten Medizin. Herausgegeben von Prof. Dr. Th. Brugssach, Oberarzt der II. medicinischen Klinik der Charité in Berlin. IX.—Angina pectoris. Von Prof. Dr. Hans Kohn. Paper. Pp. 209-276. Berlin: Urban & Schwarzenberg, 1926.

The author has condensed into these sixty-five papers a comprehensive summary of the present status of our knowledge of angina pectoris. The historical background is given briefly but in full. From this are traced the various views of the symptom complex or, as the author would consider it, of the disease entity. The views of the different authors are considered entirely and fairly, in spite of the somewhat partisan bias of the author. The evidence in support of the hypothesis which he believes to be the only logical explanation for the symptoms is carefully developed and conclusively presented. He considers that angina pectoris is a definite disease entity and not a symptom complex, and that it is always due to a narrowing of the coronary vessels, causing an ischemia of the heart muscles. This may be due to anatomic changes in the vessels, such as atheromatous syphilis or endo-arteritis, with a possible thrombosis superimposed on either of them, or, rarely, to an embolus. In the absence of sufficient anatomic changes, he holds that the same phenomena characteristic of angina pectoris can be produced by an active vasoconstriction of the coronaries, and that even in the presence of anatomic changes the attack itself may be precipitated by a vasoconstriction. The sudden death is due to an ischemia of the heart muscle and ventricular fibrillation. The evidence gathered is convincing. Similar views have been held, in part at least, by others, as von Neusser, but have never been so clearly presented or supported by so thorough and logical a brief. This admirable exposition should be read generally by physicians, and not only by those especially interested. It is impossible to convey in a brief review the amount of valuable material in these few pages. There is a full index to the literature used. It is unfortunate that the construction is at times unnecessarily involved.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

Principles of Chemistry. An Introductory Textbook of Inorganic, Organic and Physiological Chemistry for Nurses and Students of Home Economics and Applied Chemistry, with Laboratory Experiments. By Joseph H. Roe, Ph.D., Professor of Chemistry, George Washington University Medical School. Cloth. Price, $2.50. Pp. 378, with 30 illustrations. St. Louis: C. V. Mosby Company, 1927.

Another textbook for nurses telling more than they ever will need to know.

Universal Knowledge. A Dictionary and Encyclopedia of Arts and Sciences, History and Biography, Law, Literature, Religions, Nations, Races, Customs and Institutions. Edited by Edward A. Pace, Ph.D., D.D., and others. Volume I. Cloth. Price, $6.25 per volume; $75 per set of twelve volumes. Pp. 1694, with illustrations. New York: Universal *Knowledge Foundation, Inc., 1927.*

New encyclopedia with many distinguished medical contributors.

Taschenbuch der praktischen Untersuchungsmethoden der Körperflussigkeiten bei Nerven- und Geisteskrankheiten. Von Professor Dr. V. Kafka, Leiter der serologischen Abteilung der psychiatrischen Universitätsklinik u. Staatskrankenanstalt Friedrichsberg, in Hamburg. Third edition. Paper. Price, 6.60 marks. Pp. 114, with 42 illustrations. Berlin: Julius Springer, 1927.

Vest pocket guide for neurologic examinations.

The Mind and Its Mechanism: With Special Reference to Ideo-Motor Action, Hypnosis, Habit and Instinct, and the Lamarckian Theory of Evolution. By Paul Bousfield, M.R.C.S., L.R.C.P., and W. R. Bousfield, K.C., F.R.S. Cloth. Price, $4. Pp. 224. New York: E. P. Dutton & Company, 1927.

Highly complex consideration of theories of mind action, concluding that mind patterns are heritable.

Röntgentherapeutisches Hilfsbuch für die Spezialisten der ubrigen Fächer und die praktischen Aerzte. Von Dozent Dr. Robert Lenk, Assistent am Zentralröntgenlaboratorium des allgemeinen Krankenhauses in Wien. Mit einem Vorwort von Professor Dr. Guido Holzknecht. Third edition. Paper. Price, 4.80 marks. Pp. 81. Vienna: Julius Springer, 1927.

Handbook of roentgen-ray technic.

A Practical Treatise on Diseases of the Skin for the Use of Students and Practitioners. By Oliver S. Ormsby, M.D., Clinical Professor and Chairman of the Department of Dermatology, Rush Medical College of the University of Chicago. Third edition. Cloth. Price, $11. Pp. 1262, with 524 illustrations. Philadelphia: Lea & Febiger, 1927.

New edition thoroughly revised based on extensive experience in teaching and practice.

Röntgen Rays in Dermatology. A Handbook for Practitioners and Students. By L. Arzt, M.D., and H. Fuhs, M.D., Professors at the Riehl Clinic for Dermatology and Syphilology, Vienna. Translated by C. Kevin O'Malley, M.C., M.B., B.A.O. Cloth. Price, $6. Pp. 202, with 57 illustrations. New York: William Wood & Company, 1927.

Translation of monograph giving current practice of Viennese school.

Baby's Daily Exercises. A Manual of Exercises for Infants from Five Months to One Year of Age. By Edward Theodore Wilkes, B.S., M.D., Assistant Pediatrician, Out-Patient Department, New York. Cloth. Price, $1. Pp. 77, with illustrations. New York: D. Appleton & Company, 1927.

The baby's daily dozen thoroughly elucidated.

Should We Be Vaccinated? A Survey of the Controversy in Its Historical and Scientific Aspects. By Bernhard J. Stern, Instructor of Sociology, Columbia University. Cloth. Price, $1.50. Pp. 146. New York: Harper & Brothers, 1927.

An enlightened layman proves that sanitation plus vaccination are necessary to control smallpox.

Venereal Disease: Its Prevention, Symptoms and Treatment. By Hugh Wansey Bayly, M.C., Hon. Sec. Society for the Prevention of Venereal Disease. Third edition. Cloth. Price, 10/6 net. Pp. 242, with 77 illustrations. London: Faber & Gwyer, Ltd., 1927.

New edition with special reference to recent investigations.

Year Book of the Pennsylvania Tuberculosis Society for 1926. Paper. Pp. 20. Philadelphia: Pennsylvania Tuberculosis Society, 1927.

La cesárea extraperitoneal y la transperitoneal suprasinfisaria sus modalidades tecnicas y sus finalidades terapéuticas Por Mateo Carreras Paper Pp 106, with illustrations Madrid Javier Morata, 1927

Spanish monograph on cesarean operation

La tuberculose Par le Dr Edouard Rist, medecin de l Hopital Laennec *Boards Price, 19 francs Pp 356, with 31 illustrations* Paris Armand Colin, 1927

French monograph dedicated to Laennec and published in recognition of the centenary

The Development of Medical Education in the Pacific Northwest By O Larsell, *University of Oregon Medical School Paper* Pp 48 Portland University of Oregon Medical School, 1927

Medicohistorical monograph of interest in American medical progress

Eminent Chemists of Our Time By Benjamin Harrow Second *edition Cloth Price, $3 Pp 471, with illustrations New York* D Van Nostrand Company, Inc, 1927

Biographic exposition of rise of modern chemistry

The Evolution of Tubercle By Allen K Krause Cloth Price, $1 Pp 95 New York Journal of the Outdoor Life, 1927

Reprint of a lecture defining present status of knowledge and trend for research on tuberculosis

Fifty Years of Medicine By G E Crawford, M D Paper Pp 35 Cedar Rapids Cedar Rapids Life Insurance Company, 1927

Reminiscences of a practitioner appealing for more general practitioners

Die Chirurgie Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie Herausgegeben von Prof Dr M Kirschner und Prof Dr O Nordmann Lieferung 15 VI Band 2 Teil Die Chirurgie der Milz Die Chirurgie der sog Blutkrankheiten Von Dr A Weinert Paper Price, 13 marks Pp 1039 1277, with 88 illustrations Berlin Urban & Schwarzenberg, 1927

Postencephalitic Respiratory Disorders Review of Syndromy, Case Reports, Physiopathology, Psychopathology and Therapy By Smith Ely Jelliffe, M D, Ph D Nervous and Mental Disease Monograph Series No 45 Cloth Price, $2 50 Pp 135, with illustrations Washington, D C. *Nervous and Mental Disease Publishing Company, 1927*

Psychiatrie Von Prof Dr Emil Kraepelin und Prof Dr Johannes Lange Band II Teil 1 Klinische Psychiatrie Von Dr Emil Kraepelin, ord Professor a d deutschen Forschungsanstalt fur Psychiatrie in Munchen Ninth edition Paper Price 69 marks Pp 1471, with 326 illustrations Leipsic Johann Ambrosius Barth, 1927

Handbuch der pathogenen Mikroorganismen Von W Kolle, R Kraus, und P Uhlenhuth Lieferung 4 Band VI Rotz Von Prof Dr E Luhrs—Bacillus pyocyaneus Von Prof Dr A Lode Third edition Paper Price, 13 marks Pp 183, with illustrations Jena Gustav Fischer, 1927

Plötzliche und akute Erkrankungen des Nervensystems Ihr Erkennen und ihre Behandlung Vorlesungen gehalten vor reiferen Studierenden und Aerzten Von Prof Dr S Fleischmann Paper Price, 12 marks Pp 301, with 56 illustrations Berlin S Karger 1927

Spirochaetose broncho pulmonar hemorrhagica de Castellani These de doutoramento cadeira de clinica medica Por Dr Hamleto Caprighone, natural de Campinas (Esatado de S Paulo) Paper Pp 192, with illustrations Rio de Janero, 1926

Proceedings of the Twenty Third Annual Convention of the National Association of Boards of Pharmacy Also proceedings of joint meeting with the American Conference of Pharmaceutical Faculties Paper Pp 193 Philadelphia, 1927

Transactions of the American Surgical Association Volume 44, 1926 Edited by John H Jopson, M D, Recorder of the Association Cloth Pp 632, with illustrations Philadelphia William J Dornan 1926

Fourteen Is Too Early Some Psychological Aspects of School Leaving and Child Labor By Raymond G Fuller Research Specialist Paper Pp 40 New York National Child Labor Committee, 1927

La vecchiaia puo essere ritardata? Por Nicola Pende, direttore della clinica medica della R Universita di Genova Paper Pp 20, with 4 illustrations Rome Romana Medica, 1927

Transactions of the Medical Society of the State of North Carolina Seventy Third Annual Session, June, 1926 Cloth Pp 588, with illustrations Southern Pines, 1927

Twelfth Annual Report of the Sanatorium of the Metropolitan Life Insurance Company, Mount McGregor, N Y Paper *Pp 24 New York, 1927*

Miscellany

A NEW STAIN FOR BLOOD FILMS

Nyfeldt *(Ugeskrift for Læger)* has worked out a new method which gives a very clear distinction between the eosinophil and the pseudo eosinophil leukocytes, so that a mistake is out of the question This method is practiced as follows

1 The specimen is fixed in absolute methyl alcohol for five minutes, the alcohol being pressed out with several layers of blotting paper

2 It is stained for five minutes with a solution of 1 part of May Greenewald s stain and 2 parts of Epstein's lithiontoluidin blue, after which is is,

3 Washed well in water and then,

4 Differentiated for five seconds in a watery saturated trinitrophenol solution and then,

5 Washed well in water and dried with blotting paper

The color effect obtained by this method is the following

The chromocytes are stained a beautiful light green, while the polychromatic chromocytes are light green to bluish green

The eosinophil granulations are shining green, while the pseudo eosinophil granulations and the neutrophils are dark bluish purple

Basophil granules are bluish black, while the azurophil granules are carnelian red The nuclei are well stained in these different cells, but seem to be mode easily stained than are the Pappenheim stained specimens

The plasma of the lymphocytes is either dark blue in the small ones or light blue in the big ones The plasma of the monocytes is often filled with a dust shaped light purple granulation

The malaria plasmodium seems to be blue in the light green chromocyte body, while the chromatin grain is black-red, so that there is a good contrast

GASTRIC HYPERTONUS AND GASTROPTOSIS

Arthur F Hurst (*Guy's Hosp Rep* **77:22** [Jan] 1927) concludes that the types of stomach commonly diagnosed by radiologists as hypertonic and as dropped, respectively, are quite incorrectly named Experiments with stomach tubes connected with a manometer and more recent radiologic investigations have shown that the tone of the normal stomach adapts itself to the volume of its contents so that the pressure within remains constant Every radiologist is familiar with the fact that the upper level of the contents may be just under the diaphragm, whether it lies almost horizontally with the lowest point of its greater curvature two inches above the interiliac line, or vertically with the greater curvature dipping into the true pelvis This shows that the intragastric pressure and therefore the tone are the same in the two stomachs Yet the first stomach is commonly called hypertonic, the second is not indeed called hypotonic, a term rightly reserved for cases in which the upper level of the contents is abnormally low, but it is said to have "dropped" It is clear that the contrast between the two stomachs is erroneously described—a term indicating an abnormality of tone being contrasted with one indicating an abnormality in position The former is obviously wrong because the tone is the same in the two stomachs The latter is equally incorrect, for "gastroptosis," or dropping of the stomach, should indicate that the stomach has fallen It is true that in so called gastroptosis the stomach falls on standing from the position it occupies when lying, but every stomach does this, and there is no evidence that it has fallen from a higher position than it once occupied in the erect position

So called gastroptosis is quite common in people with excellent *abdominal muscles, who have always been thin,* and it also occurs, though less frequently, in comparatively stout individuals On the other hand, the so-called hypertonic stomach may exist in people who have lost much weight and whose abdominal muscles have become very weak Nothing, in fact, will make such a stomach drop materially, just as nothing will make the so-called dropped stomach rise to the level of the average stomach. Therefore, the usual explanations given for the remarkable difference between the appearances of the so-called hypertonic and the so-called dropped stomach are incorrect. The only satisfactory explanation is to regard the difference between the two types of stomach as due to anatomic variations from the average normal length.

The stomach swings between the part of the esophagus that passes through and is fixed to the diaphragm about one inch above the cardia, and the junction between the duodenal bulb and the descending retroperitoneal portion of the duodenum. If it is short, it assumes the diagonal or almost horizontal position of the so-called hypertonic stomach; if it is long, it assumes the vertical position with the steeply ascending pyloric part of the so-called dropped stomach. These two types of stomach should be renamed, respectively, the short stomach and the long stomach, and they should be regarded as nothing more than normal anatomic variations from the stomach of average length. The short stomach is often associated with hyperchlorhydria and predisposes to duodenal ulcer, with which it is therefore frequently associated. When other forms of stomach are found with duodenal ulcer, some reflex or organic interference with the pyloric sphincter is generally present; the typical short form is restored when the ulcer heals. The long stomach is generally associated with a normal or low gastric acidity, and it appears to predispose to gastric ulcer. The conception of a "hypertonic stomach" is the invention of the radiologist to explain an appearance which is due to something else. A "hypotonic stomach," corresponding with the "atonic dilatation of the stomach" of the preradiologic period, does exist, but in most cases in quite a different form from what is commonly described. In the absence of organic disease it is rare and never of any clinical significance, being found incidentally in routine radiologic examinations: the upper level of the gastric contents is lower than usual without any corresponding excess of gas being present in the fundus. As tone is completely independent of peristalsis, this does not result in any delay in evacuation, and does not give rise to symptoms.

Severe hypotonus rarely, if ever, occurs except as a complication of pyloric obstruction, when it develops in exactly the same way as the myocardial hypotonus which may accompany the dilatation of the left auricle in mitral stenosis. The gradual development of pyloric obstruction leads to hypertrophy of the muscular wall of the stomach, which to some extent compensates for the difficulty in evacuation. A time soon comes, however, when the stomach is never completely empty, and, if food continues to be taken in the usual amount, it gradually becomes more and more dilated. In the early stages the stomach is still capable of contracting to its normal size if it is completely evacuated by a tube or by vomiting, no loss of tone having occurred. But gradually the postural tone of the musculature adapts itself to the new conditions, so that evacuation is no longer followed by a complete return to the normal tone of the empty stomach; some true hypotonus has now developed. Only in neglected cases, which are rare nowadays, does anything approaching complete atony occur; in such cases it is essential to give a course of gastric lavage and to keep the stomach empty during most of each day for a week or more before operation, as, unless tone is restored, the gastro-enterostomy will not work satisfactorily and death is likely to follow. Unless great care is taken, atony is likely to be diagnosed in many cases in which it does not occur. In pyloric obstruction a considerable accumulation of clear gastric juice may be present when fasting in the morning, together with more or less food if the obstruction is organic. The opaque meal falls through it, and its upper surface may be mistaken for the upper surface of the gastric contents, but more careful inspection will show that the latter is some inches higher up or possibly even in the normal position, though it is difficult to recognize, as the accumulation of gastric juice is only slightly more opaque than the gas bubble immediately above it. In such cases the roentgen-ray examination should be repeated after the stomach has been evacuated with a tube, in order to estimate the tone of the stomach and to obtain a clear view of the pyloric vestibule, which would otherwise be filled with the translucent resting contents of the stomach instead of the opaque meal. Hurst protests against the term "orthotonic" stomach. It is quite meaningless. The so-called orthotonic stomach is simply the stomach of average length; it may occasionally be actually hypotonic, and, if such a condition as true hypertonus ever occurs, there is no reason why it should not become hypertonic.

Medicolegal

Questions Not Permitted to Be Asked Medical Expert

(Commonwealth v. Marshall (Pa.), 135 Atl. R. 301)

The Supreme Court of Pennsylvania does not find reversible error in the exclusion of certain questions propounded to a physician who was called as a witness by the defendant in this homicide case. One of the questions was properly excluded because it concerned a subject sufficiently within common knowledge to render an expert opinion unnecessary. Others of the questions sought to have the witness testify that two separate necropsy reports, made by physicians who appeared at the call of the commonwealth, did not contain sufficient evidence to warrant the conclusion that death resulted from the cause therein assigned. These documents were obviously form reports and did not attempt to give more than the briefest outline of the major conditions found on examination of the body. That an attack on the conclusions of the examining physicians, as to the cause of death, could not properly be made by a critical view of these form reports was clear, and offers of testimony to accomplish that end were rightly refused.

In other instances the defendant sought to have his medical expert base his opinion, not on his own statement of existing facts, nor on facts embodied in a hypothetic question, but on the testimony given by the physicians who had made the necropsies. While it is permissible for an expert to express an opinion based on the nonconflicting testimony of others, when such testimony is assumed to be true, this should be allowed only when the prior testimony embodies a set of facts of such completeness as to be susceptible of being put in the form of a valid hypothetic question. The testimony of the commonwealth's physicians contained much of fact and much of opinion; it did not necessarily mention all the conditions existing in the body of the deceased when it was examined, and, in fact, the coroner's chief physician testified that all that had been observed in making the necropsy had not been brought out in the testimony, though there was no assignment of error complaining of an insufficient statement of facts to permit the expression of opinion by the commonwealth's witnesses, who said that they deduced their ultimate opinion from all they had observed in making their necropsies. Then some of the questions put to the defendant's medical expert would have required him to draw his own conclusions of fact, from the prior testimony, on which to base his opinion. This the law would not permit. Opinion testimony may be given only on a set of definitely established or assumed facts; all balancing of testimony and deductions of fact therefrom must be made by the jury.

Instead of having the medical expert by expressing his own professional views on an assumed state of facts help the defendant's case, thus rebutting the expert testimony of the prosecution, the effort was apparently to have him condemn the medical witnesses of the commonwealth by expressing his opinion that, on the data considered by them, it could not properly be said that the death of the deceased was attributable, as they had said, to "compression of the neck." Practically all the questions for this purpose were leading, in the sense that they suggested the answer desired, and were objectionable on that score if for no other reason. Furthermore, the defendant's expert described in detail the various physical conditions and signs which usually appeared, and were to be scientifically expected, in cases of strangulation. The jury had this testimony to compare with that of the physicians called by the commonwealth, and, with the assistance of counsel, could determine whether or not the signs and conditions described by the defendant's expert appeared in the case. It was for them, the triers of the facts, to decide that question, not for him to do so by answering a comprehensive and suggestive question put by counsel for the defendant, who, at the end of the witness' description of what should appear in such cases, asked him to say whether or not the telltales which he had just enumerated and described were present in the examination that one of the physicians for the commonwealth had made, and of which the witness had read a report. The true test was not whether, from certain parts of the testimony for the commonwealth, he could say what was the cause of the death, but whether or not, considering all the data shown to have been considered by experts on the other side, it could properly be told therefrom what the cause of death was; or, if you please, on that data, assuming it to be correct, whether or not he could state the cause of death. This would have given him the proper opportunity to assert, if in his view such was the fact, that the data did not afford a sufficient basis for an opinion concerning the cause of death, and hence that he could not express one.

Proper Procedure After Revocation of License

(Oliver v. State ex rel. State Board of Medical Examiners et al. (Okla.), 251 Pac. R. 31)

The Supreme Court of Oklahoma says that respondent Oliver, a duly licensed physician and surgeon, was informed against by the state board of medical examiners on a charge of being guilty of unprofessional conduct. He was thereafter duly cited to answer the complaint, and did answer it, denying specifically the acts complained of. Subsequently, the state board heard the complaint, and evidence was introduced, after which the board found against the respondent, and ordered that his license as a physician be revoked. He gave notice of appeal to the superior court of Pottawatomie County, and also gave notice that he would apply to that court for a writ of certiorari, and an order requiring the board to certify all the records of the proceedings against him to that court. Within three days thereafter he filed his petition in the superior court of Pottawatomie County, where one of the members of the board resided, and the court issued its writ of certiorari, and ordered the board to certify the entire record to the court. Then the attorney general, on behalf of the board, moved to dismiss the writ and order, for the reason that the state statutes provide proper and adequate remedy by appeal, and that therefore the writ and order were improperly issued and made. The court sustained the motion, and dismissed the proceeding pending in the superior court. The sole question presented was: Did the superior court commit error in dismissing the writ and vacating the order? The supreme court holds that it did, and reverses its judgment, for further proceedings.

It is to be observed that, although section 33 of chapter 59 of the session laws of 1923 provides for an appeal and trial de novo (anew), yet no procedure or method of perfecting the appeal is provided for. The uncertainty of this statute was no doubt responsible for the fact that the respondent gave both notice of appeal and notice of his intention to apply for a writ of certiorari. It was quite evident that he desired to have the matter heard de novo in the superior court, as he was entitled to, and, because of the inadequacy of the statute, was fearful of taking one horn of the dilemma, lest the medical board take the other. It is not the province of this court to lay down the rules or formality governing an appeal in such cases, but it is proper for this court to say that he was entitled to a trial de novo before being deprived of the benefits of his life's profession. The methods of appeal from the various boards, commissions and courts are many and varied, and, as no procedure had been laid down for such an appeal as the respondent desired, it was impossible for him to know which method to pursue. The general rule is that the writ of certiorari will lie when there is no adequate remedy by appeal or otherwise.

The respondent was entitled to have the matter heard de novo in the superior court. This had not been done. In the opinion of the supreme court, the appeal provided for by the act under consideration was not adequate and complete, and therefore certiorari was the proper procedure for bringing the record of the board to the superior court. The supreme court must conclude that the trial court abused its discretion in dismissing the writ and vacating its order to the medical board to certify its records to the superior court. It might be that the medical board had certified the entire record to the superior court by reason of the verbal notice of appeal given by the respondent. In that case the writ would be useless; but the trial court should proceed with a hearing of the case on its merits.

Physician Not Wholly and Permanently Disabled

(Corsaut v. Equitable Life Assur. Soc. (Iowa), 211 N. W. R. 222)

The Supreme Court of Iowa says that the plaintiff was the widow of a physician and the beneficiary of a policy of insurance issued on his life, Jan. 30, 1922. The insured died, Dec. 31, 1923. A premium due on his policy, Jan. 19, 1923, was not paid. But the policy contained a provision that if the insured became wholly and permanently disabled before the age of 60, the society would waive the subsequent premiums; and the plaintiff alleged that for some time prior to Jan. 19, 1923, and thereafter until the date of his death, the insured was totally and permanently disabled by disease, and was totally insane and incompetent to transact any business or cause it to be transacted by any one in his behalf. The question was whether, on the record, the trial court erred in submitting the case to the jury, which returned a verdict in favor of the plaintiff, or whether the court should have directed a verdict in behalf of the defendant.

There was no provision for "partial disability" or for disability that should incapacitate one from performing his "usual occupation." The policy provided but one condition under which premiums were waived by the company, and that was, "if the insured becomes wholly and permanently disabled before age 60." This court cannot give to these words any other and different interpretation than their usual and ordinary meaning. "Wholly and permanently disabled" cannot logically be construed to mean partially disabled, or disabled to a limited degree, or disabled from doing certain things while able to do others. Under the record it could not be said that this case presented an instance of an insured who was "wholly and permanently disabled."

Undoubtedly the insured had a mental breakdown, and this began to be noticeable in 1922; but at or about the time that the premium in question was due, and for several months thereafter, the insured was carrying on the practice of his profession, was treating patients, and, so far as the record disclosed, without making mistakes in the very delicate and, in a sense, dangerous business of administering medicine. The only specific instance in the record looking toward a lack of judgment in this regard was an instance in which as late as December, 1922, physicians closely acquainted with him evidently deemed him competent to undertake the delicate task of administering an anesthetic, and it appeared that he administered too much of it, and it became necessary to resuscitate the patient. In the light of common knowledge it could not be said that this incident was evidence of "total and permanent disability." The number of patients shown by the books of the physician to have been treated during the period from January to June, 1923, ran into the hundreds. According to the testimony of the office girl, some of these entries were erroneous, and the physician doubtless made charges against people whom he did not treat. He was forgetful and negligent and subject to spells of exhilaration and of depression, but the undisputed fact remained that during this entire period he was in regular attendance at his office, and was continuously engaged, more or less, in treating patients, administering medicine, and practicing his profession. In June, 1923, he made an examination of an applicant for insurance, filling out the somewhat extensive blank form for such examination in detail, and received a check therefor, and indorsed the same.

Without reviewing the record further, this court is constrained to hold that a verdict to the effect that during this period the insured was "wholly and permanently disabled" was contrary to the record in the case, and could not be permitted to stand. The trial court should have sustained the defendant's motion for a directed verdict at the close of all the testimony. No other conclusion is warranted under the record in this case under the terms of the policy in question and the rules of law applicable thereto as heretofore announced by this court. The plaintiff was charged with the burden of establishing that the insured was "wholly and permanently disabled." In this she failed. The judgment of the district court in favor of the plaintiff must be, and it is, reversed.

Liability for Death from Procuring a Miscarriage

(State v. Shortridge (N. D.), 211 N. W. R. 336)

The Supreme Court of North Dakota, in affirming a judgment of conviction of murder in the second degree, charged to have been committed by the defendant by employing an instrument or other means to procure the miscarriage of a named woman, and in that connection inflicting a wound resulting in her death, says that the defendant testified to symptoms present at the time the woman came to his hospital which indicated that a miscarriage was imminent. He explained the progressive character of the hemorrhage, and described the symptoms pointing to the necessity for the removal of the fetus, and detailed the operation. He denied the use of any instrument in connection therewith. On the other hand, the expert testimony disputed any contention that the tear in the uterus resulted from a natural abortion. There was also evidence which would warrant the jury in finding that the condition which existed until the woman consulted the defendant was the normal condition of a pregnant woman, and that there was no necessity for the performance of the operation which he admitted that he did perform. But, aside from the affirmative evidence of these facts, the jury was justified in taking into consideration the conduct of the defendant after the death of the patient. This conduct could properly be judged in the light of common experience and if, when so considered, the acts of the defendant were best accounted for by considering them as done to conceal a prior course of criminal conduct concerning the deceased, the jury might properly consider his actions as evidence of the crime charged.

In a petition for rehearing, which was denied, it was contended that the trial court erred in not instructing the jury fully on the defense indicated in the defendant's testimony to the effect that a miscarriage was imminent at the time the woman consulted him, and that the operation which he performed was necessary to save the life of the patient. It was said that the woman might very easily have inflicted on herself such a wound as would make it appear to the physician that a miscarriage and curettement were imminently necessary, and that a physician might not be held criminally responsible for an operation which he, in good faith and in the exercise of his best skill and understanding, believed to be necessary to save the patient's life. The assignment of error, in support of which this argument was advanced, was the refusal of the trial court to instruct the jury that the burden was on the state to negative that the defendant, in good faith and in the exercise of his best skill and understanding, believed the operation was necessary to save the patient's life.

The instruction given defined murder in the second degree as homicide perpetrated wilfully, unlawfully and feloniously, without any design to effect death, by a person engaged in the commission of a felony, and if the felony charged was the felony of procuring an abortion, then it was murder in the second degree. In defining the felony the defendant was charged with being engaged in committing at the time of the acts resulting in the death of the woman, the instruction defined the crime of procuring an abortion substantially in the language of section 9604 of the compiled laws of North Dakota of 1913, which makes it a felony for any person to employ an instrument or other means, with intent thereby to procure the miscarriage of a pregnant woman, unless such an operation is necessary to preserve her life. From these two instructions, following as they did the statutory definitions of murder and of abortion, it is readily apparent that the giving of the instruction requested would involve the writing into the statute of an exception to the effect that, when a physician procures the miscarriage, he shall not be criminally responsible, if he, in good faith, believed his acts to be necessary. The statutes of some states embody such an exception. In the absence of such an exception in the statute, however, either expressed or arising by fair implication, no such fact or circumstance excusing the act of a defendant is available as a defense. The North Dakota statute does not contain any express exception or any language from which this court thinks one may fairly be implied. The standard by which to determine the necessity under the statute is not the good faith or bad faith of the physician, nor does it vary with the degree of skill which he possesses. It is the one standard of necessity. On the state rests the burden of proving beyond a reasonable doubt that no necessity existed. When this fact is thus proved, it is established that the operation is unlawful and, being performed voluntarily, an intent to perform the unnecessary operation must be ascribed. It is the general criminal intent that is important in such a case. In other words, criminal intent is supplied by proof showing beyond a reasonable doubt that the acts were not necessary to save life.

Delirium Tremens and Death After Herniotomy

(Valeri v. Village of Hibbing (Minn.), 211 N. W. R. 8)

The Supreme Court of Minnesota, in affirming a decision of the industrial commission awarding compensation to a widow for the death of her husband, says that the finding of the commission that a hernia was caused by the man's attempt to lift a can of garbage was sufficiently supported by competent evidence. To relieve the hernia, a surgical operation was performed. It was followed two days later by an attack of delirium tremens, and on the fourth day by the man's death. He was an Italian by birth, had once been a saloonkeeper, and habitually drank wine which he made and kept at home. There was evidence of a somewhat unsatisfactory character that for at least two weeks before he entered the hospital for the herniotomy he had been in a state of mild intoxication. For the village, which was his employer when he suffered the hernia—a right inguinal one—it was contended that the evidence did not support a finding that the hernia was a proximate cause of his death; but the court holds that the finding that the operation set into activity delirium tremens and that death was the result of the operation and the subsequent complications was supported by the evidence. To those not versed in medical science, the statement that delirium tremens may result from a surgical operation is surprising. The popular belief is that the excessive use of intoxicating liquor is always the cause of the disorder. But the medical witnesses agreed that the operation and the shock to the nervous system and the pain and suffering that followed were contributing causes to the development of the acute delirium from which the man suffered. Granting that his habitual consumption of wine was a predisposing cause of the attack, nevertheless, if the operation was the proximate cause of his death, and the hernia resulted from a strain to which he was subjected when he tried to lift the can of garbage, his dependents were entitled to compensation. To state it a little differently, even if the habit of drinking wine was a predisposing factor in bringing on the attack of delirium tremens and the man's death, nevertheless, if the injury and the operation were material factors, in the absence of which death would not have occurred when it did, his dependents were entitled to compensation.

Physician May Testify to Probable Duration of Life

(Fournier v. Zinn (Mass.), 154 N. E. R. 268)

The Supreme Judicial Court of Massachusetts says that in this action to recover damages for personal injuries sustained in a collision of automobiles a physician called by the plaintiff was allowed, subject to the defendant's exception, to state his opinion of the probable duration of the plaintiff's life. He said that, taking into account the plaintiff's physical condition if he had not received the injury complained of, he would live about nine years; that because of the accident, he would probably live about four years from that time. This evidence was admissible. Mortality tables based on selected lives are admitted in evidence. The probable length of life of the plaintiff as affected by the injury was relevant.

Society Proceedings

COMING MEETINGS

Idaho State Medical Association, Twin Falls, August 29-31. Dr J. N. Davis, Kimberly, Secretary.

Montana, Medical Association of, Missoula, July 13-14. Dr. E. G. Balsam, 222 Hart-Albin Building, Billings, Secretary.

Washington State Medical Association, Tacoma, August 29-31. Dr. C. H. Thomson, 508 Cobb Building, Seattle, Secretary.

ASSOCIATION OF AMERICAN PHYSICIANS

Forty-Second Annual Meeting, held at Atlantic City, N. J., May 3 and 4, 1927

(Concluded from page 59)

Food Iron and Its Storage in the Body

Dr. Charles S. Williamson, Chicago: By feeding liver for four months we can effect an iron storage which can obliterate an anemia of 33 per cent loss of blood. Applying these principles clinically to the hematopoietic system, we find that some patients recover and others show no effect from treatment. This difference may be nothing but the iron which has or has not been stored up. In young persons, particularly, the diet should be very rich in iron; the iron storage should be sufficient to carry them over periods of stress.

Circulatory Collapse in Diphtheria

Dr. C. W. Edmunds, Ann Arbor, Mich.: There are two methods of treatment: injection of dextrose solution and injection of solution of pituitary. The heart is not primarily responsible for the failure in circulation; therefore the periphery is at fault.

Auscultatory Gap in Sphygmomanometry

Dr. Paul D. White, Boston: The auscultatory gap is an interval of silence beginning below the systolic pressure and down for 50 mm. In hypertension cases there is a murmur present in 5 per cent. We have also been able to detect aneurysm compressing the subclavian artery at this point. A fifth sound phase is now differentiated. One may get a complete auscultatory gap, an incomplete gap or an inconstant diminution of the gap. The type most frequently observed is situated in the middle third of the pulse pressure, or sometimes at the upper end. The gap is noted by taking the systolic pressure beyond the gap. Pulse rates from 16 to 100 were recorded. Sixteen patients had dyspnea on exertion, and six had angina. The reasons for this gap may be: constriction; decrease in pressure; the type of pulse wave; failure of resonance of the arterial wall; peripheral resistance of the artery. No definite prognosis can be attached to the phenomena of the gap; the result depends on the underlying pathologic condition.

DISCUSSION

Dr. Eugene S. Kilgore, San Francisco: These observations constitute an important and serious criticism of prevalent teaching and practice of sphygmomanometry. There exists a general impression that auscultatory readings, being usually somewhat higher than palpatory, are nearer true blood pressure and less subject to variation by the personal factor of the examiner. As a matter of fact, however, the palpatory method itself yields figures a little above actual pressure, and therefore for theoretical nearness of readings to actual conditions the palpatory method would be preferable.

Diabetes Mellitus, Refractory to Insulin

Dr. Albert E. Taussig, St. Louis: A patient had a progressively severe diabetes and showed urticaria after injections of insulin. She went into diabetic coma and we had to give her enormous doses of insulin, but we were never able to make her sugar free. One day she had 1,100 units of insulin. In patients who showed little or no drop after intravenous injections, we tried hypodermic injections with no better result. We also tried fractional doses of 20 units hourly but never got them sugar free. After two months the response to insulin showed improvement and finally we were able to give a daily dose of 200 units. Finally, the insulin was brought down to 104 units daily. To find the reason for this refractory condition we took 10 cc. of the patient's blood and injected it into rabbits, but there was no result. We then tested for an allergic skin reaction without result. We tested the urine but found no trace of insulin in the urine. We have also considered the theory that insulin acts as a coferment, transforming blood sugar into glycogen or lactic acid. In some persons the other constituent (muscle phosphate) may be lacking or may be present in too small amounts, so that insulin is not able to do its work.

Myrtillin, a Diabetic Remedy Orally Administered

Dr. F. M. Allen, Morristown, N. J.: There are two substances present, in association in blueberry leaves: one (myrtillin) which lowers blood sugar and a substance which raises it. These two substances occur in all plants and belong to the anabolic, catabolic activities of plants. If myrtillin is effective at all, it is as effective in doses of 1 Gm. daily as in doses of 30 Gm. The effect is to stabilize blood sugar reactions when administered orally or intravenously. The results are the same when given by mouth or by vein. The effect lasts for days or even weeks. With nine tenths of the pancreas removed, there is severe diabetes, which can be controlled by myrtillin. If only one fiftieth of the pancreas is left the animals cannot survive even with myrtillin. Autopsy shows hypertrophy of the pancreas remnant. The first step in treatment is to make the urine and blood normal with insulin or diet, then to give myrtillin, and then to watch for gradual building up of tolerance. Some cases are successful; some are not. Myrtillin is harmless. It is less prompt, less powerful and less certain than insulin. It is not a substitute for insulin.

Relation of Thyroid to Calcium Metabolism

Dr. Joseph C. Aub, Boston: The blood calcium and blood phosphorus are normal in thyroid disease, but the amounts excreted are far above normal. In the normal control, thyroid administration raises the blood calcium and calcium excretion. In myxedema, calcium metabolism is lowered, but with administration of thyroid the blood calcium and the calcium excretion are raised. In one patient, a woman who had had tetany for seven years, there was a deficiency of calcium. Parathyroid administration increased the blood calcium and also increased the calcium excretion.

Reaction of Chronic Nephrosis to Thyroid and Parathyroid Medication

Dr. J. C. Meakins, Montreal: We have noted improvement in nephrosis as a response to thyroid and parathyroid medication. The effect is due to the readjustment of the calcium metabolism. A woman with recurrent attacks of edema, which was resistant to diuretics, was put on parathyroid medication with good results. The urine contained casts and red cells. The urea was normal. The blood calcium was low. On parathyroid extract, 50 units a day, there was a prompt increase in serum calcium, marked increase in urine output and drop in weight. When the parathyroid was stopped, the edema returned. In case of edema and ascites, and a reverse of the albumin globulin ratio, there was an increase in blood cholesterin, the blood calcium being low. There was no response until the eighth day, when the patient responded to thyroid. This was a case of mixed glomerular nephritis with nephrosis. In another case, in which there was edema, the parathyroid had no effect on the weight. With high protein diet there was response in weight, but none in the plasma protein. A drop in weight followed thyroid medication. The cholesterin in the blood dropped. There is evidently an endocrine imbalance in these cases which varies in different patients; sometimes thyroid is effective, sometimes parathyroid. Sometimes it is not due to calcium disturbance. The plasma proteins may not be changed. We must look elsewhere than the colloids of the blood for explanation of an edema which is refractory.

DISCUSSION

Dr. L. G. Rowntree, Rochester, Minn.: The increase in calcium under thyroid administration is very clearly shown. In two instances of parathyroid tetany, the symptoms disappeared under parathyroid administration. We felt that parathyroid extract was a real contribution to recovery.

Evaluation of Various Agents in the Reduction of Obesity

Dr. Solomon Strouse, Chicago: We have been unable to get any specific results in our cases. The women showed pictures suggesting disturbance of the thyroid, pituitary or ovary, but we were unable to obtain any definite clinical picture. One difficulty is the difference in the potency of the extracts and the short periods of time in which it was possible to make studies. We planned to make an experimental clinical study, using diet and administration of substances, and also control periods. Special attention was paid to family history and to changes in the menstrual cycle. Sella turcica pictures were taken. A diet of 1,200 calories was chosen. The subjects were numbered, and one group given thyroid, one pituitary, and one controlled by diet alone. The gland substances were carefully prepared. They were given for fourteen days, and if there was any influence on the weight curve the substances were continued. Most subjects lost weight on a 1,200 calory diet. Thyroid administration accelerated the weight loss.

Body Temperature

Dr. Elmer H. Funk, Philadelphia: Readings of continuous rectal temperatures were made in fifty tuberculosis patients, the thermometer being left in situ in such a manner as not to distress the patient, and the temperature recorded on a moving graph every thirty seconds. This study showed that many important variations of temperature, indicating activity of disease, are missed in individual patients through following the routine method of taking morning and evening temperatures.

Therapeutic Use of Oxygen

Dr. Carl A. L. Binger, New York: A low oxygen saturation of the blood may result in symptoms more or less serious, usually referred to the central nervous system, but also affecting the cardiorespiratory system and the whole organism. At an altitude of 12,000 feet there is a slight reduction of the oxygen saturation, from 96 to 84, yet people can have very severe symptoms from such a deprivation: headache, nausea, cyanosis, precordial pain, elevation of temperature, resulting from only a slight reduction of the normal percentage saturation. The anoxemia in clinical conditions is greater than that seen at high altitudes. With proper administration of oxygen, symptoms can be relieved and a catastrophe prevented. By treatment in the modern oxygen chamber the arterial saturation of oxygen can be restored to its normal level. In pneumonia, patients have to be kept in an atmosphere of about twice the normal oxygen content. Unless the alveolar oxygen content is increased to about 40 per cent, the oxygen deficit is not overcome. If the oxygen is raised too high, a new group of symptoms is encountered. About 60 per cent plus oxygen saturation is about the upper limit of safety.

Chamber Treatment of Anoxemia: Effect on Body Temperature

Dr. W. M. Boothby, Rochester, Minn.: The results obtained by us seem to have justified the expense of equipment and use of the oxygen chamber. The immediate clinical effect noted is lowering of temperature and pulse rate. Cyanosis causes elevation of temperature in addition to that caused by infection. The patient passes from alarming symptoms to a condition of safety. If removed too soon, the patient dies. The oxygen chamber treatment is reserved for acute cases. The cyanosis seen in chronic cases and in debilitated persons has been excluded, because treatment is not economically expedient. Not all patients survive. Of seventy-one patients treated, thirty-two lived. Twelve patients undoubtedly owe recovery to the use of the oxygen chamber. There was no evidence that any one was injured. The patient must be kept in the oxygen chamber until all signs of cyanosis have disappeared, and treatment should be commenced at the very first signs of cyanosis, in order to be most effective.

DISCUSSION

Dr. J. H. Means, Boston: The difficulty in the past has been due to the ineffective application of this agent. The old time method of applying oxygen with a funnel was simply a waste of oxygen and of hospital funds. I suppose that one cannot even now say that these observations prove that oxygen decreases mortality in pneumonia. That may never be proved, but I think that the clinical experience shown is sufficiently convincing evidence to make us want to have oxygen at our disposal for treatment, not only of pneumonia, but in other disease producing severe anoxemia. The type of apparatus used at the Rockefeller Institute, and also at the Mayo Clinic, would be prohibitive for most institutions. The tent seems to be ingenious and satisfactory.

Dr. J. W. Meakins, Montreal: The necessity of using oxygen early in the disease seems evident. The reason oxygen therapy fell into disfavor is that it was not used soon enough or intensively enough. With sufficient oxygen to remove the anoxemia, the piling up of lactic acid into the blood disappears.

Geographic Distribution of Goiter

Dr. W. J. Kerr, San Francisco: During the war I had the opportunity to study goiter incidence in a region covering one third of the United States; namely, Minnesota, the two Dakotas, Montana, Wyoming, Utah, Idaho, Washington, Oregon, Nevada and California. Examinations were made on 21,000 recruits at Camp Lewis, Wash., the ages ranging from 21 to 31 years. In general, the northern tier of states have the highest incidence, and correspond roughly with the map published by the U. S. War Department. Figures of the War Department indicate that exophthalmic goiter is most prevalent in regions of high incidence of endemic goiter. This is contrary to the generally accepted opinion that the frequency of one varies inversely with the frequency of the other. I believe that the army statistics are subject to error in view of the lack of knowledge of classification of goiter among the medical profession in 1917-1918. Many cases of large toxic goiter, without eye signs, were probably classed as exophthalmic goiter.

Epilepsia Tarda

Drs. David Riesman and Thomas Fitzhugh, Philadelphia: Epilepsia tarda is caused by a periodic insufficiency in the cerebral circulation the background for which may be anatomic, arteriosclerotic, hypertensive, due to endocrine dysfunction, or cardiac, including Adams-Stokes disease. The groups are not sharply defined but merge into one another.

Microscopic Examination of the Tonsil in Cases of Rheumatic Fever

Dr. W. W. G. MacLachlan, Pittsburgh: The clinical observations have been correlated with the pathologic observations in tonsillar lesions. Prolonged infection is associated with greater pathologic changes. This study includes the capsular and peritonsillar tissues of the tonsils. There is an unusual amount of peritonsillar fibrosis noted. The lesions found were: endothelial proliferation of the capsular cells; granulomatous-like reactions; lymph and plasma cell infiltration; bone and cartilage; foreign body giant cells; changes in the connective tissue of the capsule and in the appearance of collogen. In choosing controls for this work we must select carefully to exclude cases of rheumatic fever. As yet we cannot state definitely that the endothelial reaction is a specific change.

Chemical and Mechanical Factors in Experimentally Produced Peptic Ulcer

Dr. Frank C. Mann, Philadelphia: Dr. Williamson and I made some studies on a method for producing experimentally gastric ulcer in dogs, identical with that in man, which would heal with characteristic processes. In this way we could follow the onset, duration and healing process of the ulcer. In our studies we have emphasized two points: first, the chemical and mechanical factors in the production of the ulcer, and, second, the healing process which is related to the treatment by surgical and medical men and is also related to chemical and mechanical factors. The site of the lesion is due to its relation in regard to the outflow of gastric contents. It is quite possible that in hemorrhages granulation tissue is swept out of the healing process.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to *The Journal* in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

2: 351-478 (April) 1927

*Combination of Angina Pectoris and Severe Anemia. J. B. Herrick, Chicago.—p. 351.
*Disturbances of Cardiac Mechanism in Subacute Bacterial Endocarditis and Rheumatic Fever. M. A. Rothschild, B. Sacks and E. Libman, New York.—p. 356.
*Some Modes of Infection in Rheumatic Fever. E. P. Boas and S. P. Schwartz, New York.—p. 375.
*Heart Disease from Point of View of Public Health. A. E. Cohn, New York.—p. 386.
*Radiographic Signs of Pulmonic Insufficiency. S. P. Schwartz, New York.—p. 407.
*Transient Auricular Fibrillation in Abdominal Diseases. D. Felberbaum and B. Finesilver, New York.—p. 416.
*Cardiac Asthma. M. H. Kahn, New York.—p. 424.
*Complete Clinical Recovery After Thrombosis of Coronary Branch. H. E. B. Pardee, New York.—p. 442.
Meningitis Complicating Subacute Bacterial Endocarditis. F. J. Smith and D. M. Brumfiel, Detroit.—p. 446.
*Auricular Flutter with Complete Heart Block. F. A. Willius, Rochester, Minn.—p. 449.
Gallop Rhythm. E. Holt, New York.—p. 453.

Angina Pectoris Combined with Severe Anemia.—Herrick has now seen seven such cases. Four were reported in 1918. Of the remaining three patients, all men, one had a typical pernicious anemia and an angina of effort; the second, aged 70 and nonsyphilitic, showed evidence of vascular and myocardial degeneration, as indicated by dyspnea, often nocturnal, numerous extrasystoles and characteristic substernal pains on walking. After more than a year of annoying cardiovascular disturbance, a severe anemia became manifest. This had the characteristics of pernicious anemia, and was the immediate cause of death. The anginal manifestations lessened as he was confined to the house and finally became bedridden. The third patient, aged 63, complained of marked hematuria of more than one year's duration, pain in the right lumbar region, pallor, emaciation, dyspnea and weakness. Also, for one year there had been pain in the chest on walking. At first this pain appeared only on walking a long distance. Gradually, the amount of effort necessary to bring on the pain lessened until walking 30 feet, or even moving about the room, would bring it on. The pain often began in the left arm, and then passed to the chest. It was so severe in the sternal region that it forced him to stand still. He felt sure that death would have followed a continuance of walking. In the past history there was nothing of moment except that since 1920 he had occasionally had attacks of vertigo of the Ménière type, some of them quite severe. There was no history of syphilis. As a result of an extended study of the case, including pyelography and microscopic examination of a gland cut out from the neck, a diagnosis was made of carcinoma of the right kidney with metastases, gallstones, Ménière's disease, severe secondary anemia, arteriosclerosis and angina pectoris. Autopsy showed carcinoma of the right kidney, metastases in the liver, lung and glands, gallstones, and marked senile arteriosclerosis of the aorta and coronary arteries. The left coronary was sclerosed and solid from its mouth to its division into the left anterior and descending branches. Both these branches had calcified plaques. The muscle of the heart showed fatty infiltration with areas of fibrosis.

Disturbed Cardiac Mechanism in Subacute Bacterial Endocarditis.—The rhythm of the heart was investigated by Rothschild et al. in 123 cases of subacute bacterial endocarditis, 109 of which were in the active or bacterial phase of the disease, and fourteen in the bacteria-free or healed stage. Auricular fibrillation was encountered only once among the active group, an incidence of less than 1 per cent, and in this case the rhythm had been normal until three days before death. In three other cases in which fibrillation was noted, and in the single instance of flutter, the endocarditis had already progressed to the bacteria-free stage. These observations demonstrate how exceptional auricular fibrillation is in the active or bacteria period of the disease. On the other hand, this irregularity is observed in the bacteria-free stage with perhaps the same frequency as in chronic rheumatic valvular disease. Observations on a large series of patients with fibrillation have convinced the authors that once this arrhythmia is permanently established, there is little danger that subacute bacterial endocarditis will supervene. The observation that auricular fibrillation and active subacute bacterial endocarditis are mutually exclusive (save in an exceptional instance) is of diagnostic value. The heart was involved in sixty-one of the sixty-five cases of rheumatic fever investigated. The electrical changes were found to vary within wide limits during relatively short periods of time and in most instances disappeared. Though these changes were usually transient, it is not as yet known whether their presence denotes that the heart has suffered permanent injury. These observations are of importance, first, because they demonstrate that the myocardium is implicated in some way in almost every case of rheumatic fever, and, secondly, because the electrocardiographic signs furnish a means of detecting cardiac invasion when other signs are wanting. Judiciously correlated with the general clinical study, these electrical changes will be found to be of diagnostic value.

Modes of Infection in Rheumatic Fever.—The belief is current that, as a rule, children, sick in hospitals with rheumatic heart disease, are not retained as institutional patients for periods long enough to insure their complete recovery. With this point in view, Boas and Schwartz studied the records of fifty-three children with rheumatic heart disease, who had been hospitalized. The importance of the lung as a source of reactivation or as a portal of entry of rheumatic infection was apparent, and at times a close connection exists between bronchopneumonia and rheumatic carditis. It is important to regard rheumatic fever as a generalized systemic infection of great chronicity; hence, attention should not be directed too exclusively to one organ, such as the heart or the tonsils. The tonsils play a relatively minor rôle as sources of reinfection. It is evident that present methods for after-care of children with rheumatic heart disease are inadequate. The ordinary form of prolonged general hospital care is harmful. The problem of the rheumatic child can be met only by providing some form of extended sanatorium treatment in an effort completely to eradicate the rheumatic virus from the infected individual.

Heart Disease and Public Health.—Cohn shows that from the point of view of the public health, the problem of heart disease is not simple as was that of tuberculosis, but is manifold. It includes disability from infectious diseases, such as rheumatic fever and syphilis, and disability incident to the process of aging. The effort to relieve rheumatic fever by removing areas of infection still wants prosecuting before a judgment on its value can be given. To prevent the onset of the disease is still impossible. The disabilities dependent solely on age, the major aspect of the problem, must elude approach on the side of etiology; to provide relief from distress must be the direction in which to expend effort. The infectious aspect of heart disease is, relatively speaking, small —smaller than is often thought—but the rate of so-called chronic heart disease is high and is constantly mounting. The rise may be alarming but it is not malign.

Roentgen-Ray Signs of Pulmonic Insufficiency. — The roentgen-ray examination made by Schwartz of three cases of mitral stenosis accompanied by the murmur of pulmonic insufficiency revealed dilatation of the pulmonary artery in all positions. The particular type of dilatation of the pulmonary artery in mitral stenosis was found in all cases presenting the Graham-Steell murmur. The lower voltage of the electrocardiograms showing right ventricular predominance and a smaller size of the T waves helps to differentiate these cases from congenital lesions of the heart. In combined cases of mitral stenosis in which aortic and pulmonic insufficiency is suspected, radiographic and electrocardiographic examinations are of value in eliminating the aortic lesions The characteristic roentgen-ray picture and the electrocardiograph are of great help in the diagnosis

Auricular Fibrillation in Abdominal Diseases—Felberbaum and Finesilver have observed clinically and electrocardiographically six cases of auricular fibrillation occurring in diseases of the gallbladder, acute appendicitis, gastric ulcer during the stage of recurrence and, finally, in a case of extensive postoperative intra abdominal adhesions The paroxysms of auricular fibrillation occurred only during the acute stages of the abdominal disorders The attacks were probably induced by a toxemia arising in septic foci within the abdomen Removal of the diseased organ is likely to be followed by a permanent disappearance of the arrhythmia Quinidine is occasionally valuable In some patients it may induce untoward results and may prove dangerous It is suggested that masked infections are possibly the etiologic factors for many cases of auricular fibrillation occurring in apparently healthy individuals

Cardiac Asthma.—Kahn attempts to distinguish the various forms of respiratory distress that occur in the course of heart disease, and to elucidate each form by carefully studied cases There is presented also a condensed review of the literature, and a clinical classification of the respiratory manifestations in heart disease, based on their pathogenesis

Recovery from Coronary Thrombosis—Pardee's patient, a man, aged 38 had a thrombosis of a coronary branch in January, 1924 The clinical history is typical, and the electrocardiogram furnished additional proof of a definite lesion of the heart muscle It is interesting that after this lesion he has been able to make a recovery to nearly a normal state It is particularly interesting that he has neither precordial pain on exertion nor unusual shortness of breath

Auricular Flutter with Heart Block—The case of auricular flutter with established complete heart block reported by Willius is the only case among 168 of auricular flutter occurring in the routine electrocardiographic examinations of 40,000 patients It is of interest that the patient is able to be reasonably active with such marked disturbance of cardiac action

American Journal of Ophthalmology, Chicago

10: 161 238 (March) 1927

Cystic Degeneration in Peripheral Retina S Ochi, Sapporo, Japan—p 161
Bilateral Hemorrhagic Detachment of Retina in New Born Simulating Glioma G S Lachman, Baltimore—p 164
Latent Ocular Muscle Imbalance W H Fink Minneapolis—p 168
Chorioretinitis and Recurrent Hemorrhages into Retina and Vitreous from Multiple Focal Infection D E Godwin, Long Beach Calif—p 171
Can Loss of Vision Due to Glaucoma Be Checked? G S Derby, Boston—p 178
Senile Cataract Complicated by Glaucoma Surgical Treatment L C. Peter, Philadelphia—p 182
Scissors Needle for Discission A Kolen Leningrad—p 186
Congenital Fundus Anomalies C O Schneider, Chicago—p 188
Penetrating Wound Through Orbit into Middle Fossa E B Fowler, Chicago—p 190
Bilateral Ptosis Cured by Hunt Tansley Operation C Loeb, Chicago—p 191
New Lacrimal Syringe E E Maddox, Bournemouth, England—p 193
Dystrophic Intracellular Opacity of Corneal Epithelium F H Haessler, Milwauke—p 193
Temporary Anisocoria in Leprosy Patient B N Bhaduri, Calcutta, India—p 194

10· 239 318 (April) 1927

Crater Like Cavities in Optic Disk H H Tyson, New York—p 239
Gold and Silver Impregnation of Cornea for Cosmetic Purposes S R Gifford and A Steinberg Omaha—p 240
Congenital Distichiasis W B Doherty, New York—p 248
Pemphigus of Both Eyes M Goldenburg, Chicago—p 251
Sarcoid of Eyelids L Lehrfeld, Philadelphia—p 255
Visual Results with Telescopic Spectacles L L Mayer, St Louis—p 256
Cyclodialysis on Eyes of Rabbits W A Stoutenborough, Columbus, Ohio—p 260
Advantages of Plano Trial Lenses E Jackson, Denver—p 266
Bilateral Congenital Coloboma of Eyeball A M Yudkin, New Haven, Conn—p 271
Scissors Magnet Extraction of Foreign Body in Vitreous W C Finnoff, Denver—p 271
Congenital Anomaly or Productive Retinitis C Loeb, Chicago—p 272
Soemmering Ring Luxated into Anterior Chamber C O Schneider, Chicago—p 273
Ossification of Choroid G N Brazeau, Milwaukee—p 274.

Annals of Surgery, Philadelphia

85: 481 640 (April) 1927

*Treatment of Acid and Alkali Burns F C Davidson, Detroit—p 481
*Burns Treatment D Goldblatt, New York—p 490
*Postoperative Water Metabolism and Intradermal Salt Solution Test Preliminary Report K E Appel and S Brill Philadelphia—p 502
Chronic Strain of Lumbar Spine and Sacro Iliac Joints J B Carnett, Philadelphia—p 509
Fractures of Transverse Processes of Lumbar Vertebrae R H Kennedy, New York—p 519
Use of Russel Apparatus in Treatment of Fractures of Shaft of Femur T J Ryan Philadelphia—p 529
Hepatitis Relation to Cholecystitis W Martin, New York—p 535
Preoperative and Postoperative Treatment of Gallbladder Patient R F Carter New York—p 555
*Results of Surgery of Biliary Tract E L Eliason and L K Ferguson, Philadelphia—p 565
Foreign Bodies in Intestine L Carp, New York—p 575
Repair of Injuries to Posterior Crucial Ligament of Knee Joint W. F Gallie and A B LeMesurier, Toronto—p 592

Treatment of Acid and Alkali Burns—Experiments made by Davidson indicate that the treatment of acid and alkali burns by washing the burnt area thoroughly with plain water is superior to neutralization When treatment by neutralization is employed, it should be used only after the maximal amount of the caustic has been removed by thorough washing

Treatment of Burns—Goldblatt combats shock, and sterilizes the burn with tincture of iodine, one-half strength, followed by the application of a dressing wet with sterile solution of sodium bicarbonate, 10 per cent The dressing is made of loose fluffs of gauze, in the folds of which several small, soft, rubber tubes, of the Carrel type, or plain tubes with fenestrations in them, are incorporated and are allowed to protrude beyond the bandage This allows of easy saturation of the dressing, periodically, without removal of the bandages or the flooding of the bed This dressing is maintained for from twenty-four to forty-eight hours, by which time the shock, if present at the beginning, will either have entirely disappeared or become greatly ameliorated The dressing is then completely changed by soaking, and a new dressing of similar type is applied and kept on for two or three days longer, by which time the acute inflammatory character of the wound changes to the milder appearance of the second or secretory stage All dressings are now removed, the blisters are opened aseptically, and the burn is exposed to sunlight during the day This is done by exposing the wound to the direct sunlight, beginning with five minutes every two hours and increasing to twenty minutes, and in the intervals, to the air If sunlight is not available, ordinary electric lights may be used At night, a wet dressing of sodium bicarbonate solution is applied Continued use of alkaline dressings is employed to soften the crusts which form because of the air exposure, and to check the process of autolysis going on in the burned tissue

Intradermal Salt Solution Test.—There is frequently a reduced disappearance time of the intradermal salt solution wheal after operation Appel and Brill have suggested this test as a method for determining the need of the tissues for water after operation

Results of Surgery of Biliary Tract—An analysis has been made of 136 cases of gallbladder disease, of which 94 + per cent have been followed by Eliason and Ferguson A theory is advanced against the infectious origin of cholelithiasis Of the patients with acute cholecystitis, 89 per cent have been cured by cholecystectomy, with an operative mortality of 10 per cent, 76 4 per cent have been relieved of all symptoms by cholecystostomy, with an operative mortality of 4 3 per cent, combined, 6 per cent In the cases of chronic cholecystitis, 87 5 per cent of the patients on whom a cholecystectomy was performed were cured, with an operative mortality of 4 1 per cent, cholecystostomy did not result in any mortality, and 72 per cent of the patients were relieved, combined, 2 5 per cent The operative mortality of the combined acute and chronic infections of the gallbladder, unassociated with other lesions, was 3.6 per cent. Of the patients operated on for biliary obstruction, 77 per cent were relieved. The operative mortality was 23 per cent.

Archives of Internal Medicine, Chicago

39: 465-604 (April) 1927

*Hypertension in Pregnancy: Blood Calcium. E. J. Stieglitz, Chicago.—p. 465.
*Vital Capacity: Effect of Breathing Dry Air. R. D. Leas, Cleveland.—p. 475.
*Intravenous Injection of Ouabain. J. Wyckoff and W. Goldring, New York.—p. 488.
*House Dust in Etiology of Bronchial Asthma and Hay-Fever. A. H. Rowe, Oakland, Calif.—p. 498.
*Histamine Test for Gastric Function. H. L. Bockus and J. Bank, Philadelphia.—p. 508.
*Course of Hyperthyroidism Under Iodine Medication. P. Starr, Chicago.—p. 520.
Cardiac Changes Subsequent to Experimental Aortic Lesions. J. A. E. Eyster, W. J. Meek and F. J. Hodges, Madison, Wis.—p. 536.
*Chronic Acidosis in Animals: Relation to Kidney Pathologic Change. B. C. Seegal, Boston.—p. 550.
*Hemorrhagic Focal Gastroduodenal Lesions. A. B. Rivers, Rochester, Minn.—p. 564.
*Hodgkin's Disease: Predominant Localization in Nervous System: Early Diagnosis and Radiotherapy. S. Ginsburg, New York.—p. 571.
Paired Auricular Extrasystoles Simulating Interpolated Extrasystoles of Supraventricular Origin. W. D. Reid, Boston.—p. 596.

Blood Calcium and Hypertension in Pregnancy.—Stieglitz reports the results obtained in 222 blood calcium determinations from a series of cases, including normal pregnant women, pregnant women with hypertension, and some nonpregnant controls. He says that hypocalcemia is not of major etiologic significance in arterial hypertension in pregnancy, despite the fact that in such cases the relationship should be most conspicuous. During the final month of pregnancy a gradual rise in arterial tension is associated with a moderate hypocalcemia. Immediately after parturition a fall in blood pressure occurs, with a corresponding rise in the blood calcium concentration. Coincident and probably associated with the onset of lactation, a secondary elevation in arterial tension occurs, with a corresponding and equally transient hypocalcemia. The latter phenomenon permits of physiologic interpretation.

Effect of Breathing Dry Air on Vital Capacity.—An experimental method is described by Leas for testing the effect on vital capacity of breathing dry air. One hundred patients, normal as to heart and lungs, were tested. The average increase of vital capacity in these cases was 12.5 cc., or 0.3 per cent. A number of patients with cardiac decompensation were tested; there was an average increase of 190 cc., or 11.4 per cent. In patients with cardiac compensation there was an average increase of only 35 cc., or 1.3 per cent. Patients with asthma varied in their response. Several responded with an increase before and after the injection of epinephrine hydrochloride. Others responded with an increase due to the dry air and not to the epinephrine hydrochloride; the response in others was just the reverse. The conclusion seems justified that the breathing of dry air extracts enough of the moisture to increase temporarily the vital capacity in the majority of patients with bronchiolar edema, decrease the lung volume and the number of râles, and produce a sense of subjective relief. However, if the vital capacity is reduced because of bronchial obstruction other than moisture, interstitial pulmonary edema or a rigid lung due to stasis, breathing dry air does not cause any change. The procedure may also be used to differentiate between those patients with asthma whose bronchial obstruction is due chiefly to moisture and not to hypertonus or hives, and thus will be a means of selecting those patients who will improve, in all probability, in a dryer climate.

Effect of Intravenous Injection of Strophanthin.—Wyckoff and Goldring gave 248 intravenous injections of strophanthin to thirty-two patients who had heart failure, without fatalities or harmful effects. A definite cardiac effect was noted after 163 injections. The initial effect was noted in from five to twenty minutes, and the maximum effect in from fifteen to fifty minutes; as a rule, the larger the dose, the earlier the initial effect and the more delayed the maximum effect. A greater amount of strophanthin was necessary to reduce the ventricular rate in patients who had auricular fibrillation with elevation of temperature than in those without elevation of temperature. The variation in dosage was less when calculated on the basis of body weight than on the basis of total dosage. The persistence of action of the drug was variable in the cases observed, but in all except three the persistence was never longer than five days. Mild toxic symptoms were noted in three of fifty-two instances in which full therapeutic effects were obtained. It would seem that strophanthin, if given in fractional doses, may be administered with safety intravenously to patients with auricular fibrillation who have not received digitalis recently. When strophanthin is given to patients with regular sinus rhythm, greater care must be used. In these patients, clinical improvement seems to be the only criterion for full therapeutic effect; and since moribund patients may not show clinical improvement, there is greater danger of overdosage.

House Dust as Cause of Asthma and Hay-Fever.—Rowe has tested 160 new patients with asthma with stock house dust solutions; 42 per cent gave reactions and twenty patients with perennial hay-fever also gave such reactions. Dust reactions have been obtained in all age groups with the scratch test. A large number of patients gave a characteristic history of dust sensitization. The necessity of testing with a large number of stock and autogenous dust extracts is demonstrated. The data collected show that reactions to dust rarely occur without one or more other reactions to proteins commonly used in testing. Desensitization to house dust extracts which give definite reactions in the patient is said to be advisable in cases in which a marked history of dust sensitization is present.

Histamine Test of Gastric Function.—Bockus and Bank do not believe that the injection of histamine with or without a water meal is in any way comparable to the fractional gastric analysis as a general test for gastric function. They believe with Rehfus that the fractional method yields information as to gastric work, and that a definite load must be imposed on the stomach in order to judge its ability to perform its function. The normal physiologic load is food, and that substance must be used in order to get the maximum information concerning the secretory and motor function. The performance of the ordinary fractional gastric analysis and the histamine gastric analysis will yield more information than either alone in stomachs with a low acidity. Both tests should be made in such cases.

Iodine Medication of Hyperthyroidism.—According to Starr the course of hyperthyroidism under iodine medication is characterized by remission and recurrence during the administration of iodine and by a reaction, which may be extreme, after the iodine is discontinued; hence, the prolonged treatment of patients who have hyperthyroidism with iodine in dosage sufficient to produce these effects is without final benefit.

Chronic Acidosis and Kidney Changes.—Seegal gave rabbits varying doses of tenth-normal hydrochloric acid and ammonium chloride over periods of time extending from eleven days to one year. The plasma carbon dioxide capacity was lowered, and the animals excreted an acid urine. Casts and albumin were obtained constantly throughout the experimental period. At autopsy, however, the only demonstrable pathologic change in the kidney was acute degeneration of the convoluted tubules, similar to cloudy swelling, but also accompanied by marked pyknosis of the nuclei in cases of longer duration. When the giving of acid-forming substances was stopped, the kidney promptly returned to normal. The results with dogs were comparable, except that a greater dose of chloride had to be given in order to produce an acidosis, and there was less albumin and casts. The possible causal relation of acidosis to orthostatic albuminuria following strenuous exercise is discussed.

Hemorrhagic Focal Gastroduodenal Lesions.—Three cases are reported by Rivers as typical illustrations of one group of patients in whom infectious lesions are probably responsible for gastro-enteric hemorrhages. They are additionally interesting and important because they stimulate speculation as possible forerunners of chronic ulcer. Rivers is of the opinion that many of these cases of so-called appendiceal bleeding or gallbladder bleeding are probably caused by acute lesions in the stomach or about or in the duodenum.

Involvement of Nervous System in Hodgkin's Disease.—In ten of thirty-six patients with Hodgkin's disease seen by Ginsberg, definite invasion of the nervous system was a striking clinical phenomenon. In one case, persistent pruritus was the only symptom present for one year before the advent of the constitutional symptoms of asthenia, fatigability and dyspnea on exertion In the second case, a diagnosis of a primary spinal cord neoplasm was made. The third case suggested a traumatic spondylitis and later a transverse myelitis. In the fourth case, extensive lesions in the osseous system gave rise to pain in the shoulder and in the thigh two and one-half years before the superficial cervical lymph nodes became enlarged Another patient had simultaneous itching in the feet extending to the knees.

Indiana State Medical Association Journal, Ft. Wayne

20: 129 174 (April) 1927

Management of Infections in Genito Urinary Tract. N. K Forster, Hammond —p 129.

Diaphragmatic Hernia. Case G T Johnson, Terre Haute —p 135.

Relation of Infected Nasal Sinuses to Optic and Orbital Disease. J. F. Barnhill, Indianapolis —p 140

Uterine Hemorrhage of Benign Origin Radiotherapy. A. M. Cole, R T Beeler and L A Smith, Indianapolis —p 144

Foreign Protein in Treatment of Inflammations of Eye M G. Erehart, Huntington —p. 146

Journal of Biological Chemistry, Baltimore

72: 505 853 (April) 1927

Thyroid Apparatus. XLIV Rôle in Chemical Differentiation of Bone During Growth F S Hammett, Philadelphia —p 505.

Id XLV F S Hammett, Philadelphia —p 527

Solubility of Oxygen, Carbon Dioxide and Nitrogen in Mineral Oil: Transfer of Carbon Dioxide from Oil to Air. L. S. Kubie, Baltimore —p 545.

*Chemistry of Tea Leaves II. Isolation of Guanine Nucleotide and Cytosine Nucleotide H O Calvery, Baltimore —p 549

*Vitamins A, B and C in Green Plant Tissues Other Than Leaves. E. J. Quinn, M P Burtis and E W Milner, New York —p. 557.

Inorganic Phosphorus of Blood. Calcium Concentration A. Grollman, Baltimore —p 565

Chemical Study of Bacteria XIV. B. Lactis Aerogenes Grown on Synthetic Mediums D M Hetler, New Haven, Conn —p. 573.

Preparation and Purification of Lecithin P A Levene and I. P. Rolf, New York —p 587

Configurational Relationships of Methylethyl and Methylpropyl Carbinols. P A Levene, H L Haller and A Walti, New York —p 591.

*Fate of Sugar in Animal Body IV. C. F. Cori and G. T. Cori, Buffalo. —p 597

Id V G. T Cori and C F Cori, Buffalo —p 615.

Acetyl Monoses III On a Mannose Pentacetate. P. A. Levene and I Bencowitz, New York —p 627

*Action of Mercuric Chloride and of Hydrogen Dioxide on Bile Pigments. W F. Von Oettingen and T Sollmann, Cleveland —p 635

Cholesterol, Lecithin and Fatty Acids in Blood of New-Born Mice with Inherited Anemia and Their Normal Litter Mates S B de Aberle, W M. Hoskins and M Bodansky, California —p 643.

*Indophenol Test H D Gibbs, Washington, D. C —p. 649.

Buffering of Tissues as Indicated by Carbon Dioxide Capacity of Body. R J Brocklehurst and Y Henderson, New Haven, Conn —p 665

Serum Electrolytes. II. J H Austin, F. W. Sunderman and J. G. Camack, Philadelphia —p 677

Factors Influencing Diffusibility of Calcium in Human Blood Serum. R F. Loeb and E G Nichols, New York —p 687

Fat Soluble Vitamin Content of Hen's Egg Yolk as Affected by Ration and Management of Layers R. M Bethke, D C. Kennard and H. L. Sassaman, Wooster, Ohio —p 695

Nature of Combination Between Certain Acid Dyes and Proteins. L M. Chapman, D. M. Greenberg and C. L. A. Schmidt, Berkeley, Calif.—p 707.

Effect of Potassium Iodide in Shaffer Hartmann Microsugar Reagent. W A DeLong, Montreal —p 731

Modified Electro Gutzeit Apparatus for Quantitative Estimation of Minute Amounts of Arsenic D. E Fink, Washington, D C —p 737.

Oxyadenine M. V. Buell and M E Perkins, Baltimore —p 745

*Antiricketic Substances. VI. Distribution of Vitamin D. C E Bills, Evansville, Ind —p 751.

Influence of Salt Content of Colloids on Their Electromotive Forces. R Beutner and A. Menitoff, Louisville, Ky —p 759

Fat Soluble Vitamin· XXVII. Quantitative Determination. H. Steenbock and K H. Coward, Madison, Wis —p 765

Influence of Light and Heat on Formation of Vitamin A in Plant Tissues K H Coward, Madison, Wis —p 781.

Oxidation of Glucose in Alakline Solutions of Iodine. W. F. Goebel, New York.—p. 801.

Preparation of Hexonic and Bionic Acids by Oxidation of Aldoses with Barium Hypoiodite. W F Goebel, New York —p 809.

Effect of Ionization on Optical Rotation· II. P A. Levene, L. W. Bass, R. E Steiger and I. Bencowitz, New York —p 815.

Decrease in Sugar Metabolism and Destruction of Insulin by Ultraviolet Radiation. W. E Burge and G. C. Wickwire, Urbana, Ill —p 827.

Nucleic Acid in Tea Leaves.—It seems very probable to Calvery that the nucleic acid, which is characterized by the presence of a pentose, is a naturally occurring product in tea leaves.

Vitamins in String Beans and Green Peppers.—Quinn, Burtis and Milner assert that both the string beans and the green peppers contain vitamin A in about the same concentration as has been found for lettuce, more than for cabbage, but considerably less than for spinach. The vitamin B concentration of about 0 3 units per gram indicated that both string beans and green peppers are as good sources of this vitamin as lettuce or cabbage but not as good as spinach Green peppers were found to contain at least four times as much vitamin C as string beans, or about 1 unit per gram. This concentration is comparable with the highest which has been reported for any plant material, such as the raw leaf tissue of cabbage or spinach or the juice of orange or lemon

Fate of Sugar in' Animal Body.—The Coris conclude that ketosis is associated with a reduced functional atcivity of the pancreas, and in consequence of this, with a reduced capacity of the tissues to oxidize glucose.

Study of Bile Pigments.—It is shown by von Oettingen and Sollmann that the deep blue-green produced by adding mercuric chloride to bile (for instance, the Schmidt test for bilirubin in the feces) is not due to biliverdin but to a mixture of green and blue oxidized bilirubin which exists as the mercury salt

Indophenol Test.—A test for phenols, depending on the quinonechloroimide reaction producing indophenols, is described by Gibbs. The test is delicate, both qualitatively and quantitatively, to one part of phenol in twenty million by ordinary manipulative skill. A method for the preparation of the reagent is given and the solubility of the best reagent, 2,6-dibromoquinonechloroimide, has been determined with considerable accuracy.

Fish Synthetize Vitamin D.—It is suggested by Bills that the substance, or group of substances, known as vitamin D may be synthesized by fish.

Journal of Comparative Neurology, Philadelphia

43: 1-200 (April 15) 1927

Diencephalon of Albino Rat: 2. E S. Gurdjian, Ann Arbor, Mich —p. 1.

Motor Nuclei in Cervical Cord of Albino Rat at Birth A W. Angulo y Gonzalez, Lawrence, Kan —p 115

Transplantation of Medulla Oblongata into Brachial Region of Cord in Amblystoma Embryos S R. Detwiler, New Haven, Conn —p 143

Subdivisions of Facial Nucleus J. W. Papez, Ithaca, N. Y —p 159.

Vascular Supply in Brain of Holocephalian—Hydrolagus (Chimaera) Colliei E H. Craigie, Nanaimo, B C —p 193.

Journal of Comparative Psychology, Baltimore

7: 93 235 (April) 1927

Discrimination of Relative and Absolute Stimuli by Albino Rats A. H. Gayton, Berkeley, Calif —p 93

Feeding and Speed of Maze Learning. C H Warden and E L Haas, New York —p 107.

Visual Discrimination Habit in White Rat C J. Warden and M. Aylesworth, New York —p 117

Standard Problem Box of Multiple Complexity. T. N. Jenkins, New York —p 129

Instinct and Intelligence in Rats and Cats W McDougall and K. D. McDougall, Boston —p 145.

Postrotation Nystagmus R M Dorcus, Baltimore —p 177.

Id R C Lumpkin, Baltimore —p 181.

Imaginative and Ideational Behavior and Learning. H M Johnson, Pittsburgh —p 187

Journal of Infectious Diseases, Chicago

40: 469 548 (April) 1927

Production of B Abortus Aggressin S. J. Schilling and W. L. Bleecker, Fayetteville, Ark —p 469.

Magnesium Ammonium Phosphate Crystals in Aerobic Cultures of B. Abortus and B Melitensis I. F. Huddleson and O B. Winter, East Lansing, Mich —p 476

*Specificity of Weil Felix Reaction in Brill's Disease. L. C. Havens, Montgomery, Ala —p 479

Relation of Hydrolytic Decomposition Products of Proteins to Bacterial Growth. G. J. Hucker and D. C. Carpenter, Geneva, New York.—p. 485.
Standardization of Bacterial Vaccines by Photometric Methods. A. B. Baylis, New York.—p. 497.
*Influence of Purulent Infection on Development of Experimental Scurvy. H. L. Jaffe, New York.—p. 502.
Leptospira Biflexa: (Wolbach and Binger, 1914, Emend. Noguchi, 1918). V. T. Dimitroff, Boston.—p. 508.
Soluble Antigens of B. Enteritidis. S. E. Branham and E. M. Humphreys, Chicago.—p. 516.
Growth of Cl. Botulinum and Cl. Sporogenes in Veal Infusion Broth Under Reduced Pressure. G. M. Dack, W. A. Starin and M. Werner, Chicago.—p. 525.
Spontaneous Infections of Guinea-Pigs: Pneumococcus, Friedlander Bacillus and Pseudotuberculosis (Eberthella Caviae). A. Branch, New York.—p. 533.

Specificity of Weil-Felix Reaction in Brill's Disease.—Havens states that the results obtained in Alabama with the macroscopic Weil-Felix test in more than 100 cases of Brill's disease indicate that the reaction is elicited in about 95 per cent of cases during the second week or later. It is usually negative during the first week, becoming increasingly stronger until convalescence. Tests including more than 1,000 negative results demonstrate its specificity. Agglutination of *B. proteus* X19 in dilutions higher than 1:80 has not been obtained in other disease conditions. The microscopic Weil-Felix test with dried blood has yielded false positive results and, for this reason, is regarded as being of doubtful value. The agglutinins for *B. proteus* X19 in serums from patients with Brill's disease and also in serums from rabbits after the injection of guinea-pig brain virus are relatively thermolabile; they are destroyed by heating the serum at 62 C. for one hour.

Influence of Infection on Development of Scurvy.—Six of eleven infected guinea-pigs placed on a scurvy diet by Jaffe developed severe purulent infections and did not develop scurvy within from nineteen to forty days. Uninfected guinea-pigs on the same diet developed scurvy in from thirteen to eighteen days. The injection of *Staphylococcus albus* into animals with early signs of scurvy caused a rapid fatal termination. The course of scurvy was not influenced by the injection of standard staphylococcus vaccine. These studies suggest the possibility that antiscorbutic substances may be developed by bacterial growth in the tissues, or as a result of the action of absorbed toxins on the internal organs.

Maine Medical Association Journal, Portland

18: 61-81 (April) 1927

Forceps and Podalic Version. F. S. Kellogg, Boston.—p. 61.
Causes of Limitation of Motion and Ankylosis After Fractures in and About Joints. H. W. Lamb, Portland.—p. 74.

Medical Journal and Record, New York

125: 365-436 (March 16) 1927

The Physician: Larger View. N. M. Butler, New York.—p. 365.
Psychopathology of Treatment of Tuberculosis. M. Pollak, Albuquerque, N. M.—p. 370.
Chronic Appendicitis Simulating Peptic Ulcer: Two Cases. A. A. Salvin, New York.—p. 372.
Cancer: XII. Dead Cell. W. Meyer, New York.—p. 375.
Chronic Ulcerative Colitis. S. Wendkos, Philadelphia.—p. 379.
Laryngeal Varices. C. J. Imperatori, New York.—p. 382.
Prominent Causes of Sudden Death. M. Grossman, New York.—p. 384.
Tooth Decay and Balanced Metabolism in Infancy and Childhood. G. D. Scott, New York.—p. 386.
Cycles of Thought in Biologic Science: II. Aristotle and Heirs of His Entelecheia or Body Soul. J. Wright, Pleasantville, N. Y.—p. 388.
Pain. A. E. M. Woolf, London.—p. 393.
Psychoneuroses. F. R. Starkey, Detroit.—p. 397.
Community Clinics and Instruction Under State Hospital Supervision. J. A. Jackson and H. V. Pike, Danville, Pa.—p. 400.
Treatment of Neurosyphilis. S. Hecht, New York.—p. 403.
Psychology of Modern Art. A. Gordon, Philadelphia.—p. 406.
Therapeutic Uses of Radium Emanation. J. Muir, New York.—p. 409.
Phagocytic and Other Effects Produced in Administration of Gold in Tuberculosis. J. W. Kime, Fort Dodge, Ia.—p. 411.

125: 513-584 (April 20) 1927

Therapy of Pellagra. G. M. Niles, Atlanta, Ga.—p. 513.
*Diagnosis of Pulmonary Tuberculosis. M. Schwartz, Philadelphia.—p. 516.
Cancer: XIV. Unbalancing of Serum Salts; Influence on Cell Metabolism. W. Meyer, New York.—p. 519.
Laryngography. D. H. Jones, New York.—p. 523.
Radiation Therapy. F. T. Woodbury, New York.—p. 524.
*Drying Up Lactating Breasts. C. L. Larkin, Waterbury, Conn.—p. 527.
Treatment of Hernia by Subcutaneous Injection. I. Mayer, Detroit.—p. 528.
Composition of Milk from Diseased Cows. T. S. Harding, Beltsville, Md.—p. 531.
Literature of Science and Art. R. Kingman, New York.—p. 533.
Peripheric Expressive or Articular Speech Defects: Cleft Palate. N. Y. P. Van Baggen, The Hague, Holland.—p. 535.
Radium Emanation in Treatment of Cervical Cancer. J. Muir, New York.—p. 538.
Treatment of Tuberculosis. H. v. Samson-Himmelstjerna, Reval, Esthonia.—p. 540.
Roentgen Rays, Radium, Endothermy and Other Physical Agents in Dermatology. J. J. Eller, New York.—p. 541.
*Woolly Hair Nevus of Scalp. F. Wise, New York.—p. 545.
Treatment of Furuncle of Ear by Ionization of Tin. G. B. McAuliffe, New York.—p. 547.
Psoriasis. S. Gordon, Philadelphia.—p. 548.
Therapeutics of Infantile Eczema. L. H. Dembo and J. E. Fisher, Cleveland.—p. 552.
Precancerous Dermatoses. S. Feldman, New York.—p. 554.
Plagues of Chester. C. G. Cumston, Geneva, Switzerland.—p. 557.
Doctor and Patient in Addison's Journals. L. J. Bragman, Syracuse, N. Y.—p. 558.

Diagnosis of Pulmonary Tuberculosis.—Schwartz has analyzed 150 cases, of which 68 per cent occurred in the third and fourth decades of life. Twenty-six per cent of the patients gave a family history of the disease; 42 per cent had influenza, 16 per cent pleurisy, and 13.3 per cent pneumonia; 26.7 per cent had unilateral and 73.3 per cent bilateral involvement; 43.3 per cent of the patients were well nourished. The most frequent symptoms are enumerated, and the importance of careful history taking is stressed.

Drying Up Lactating Breasts.—To dry up lactating breasts, Larkin recommends the use of the AC or Bender bandages. He has found them to be far superior to the usual inelastic sheeting or muslin bandages formerly employed.

Hereditary Woolly Nevus of Scalp.—Wise reports two instances of a congenital anomaly of the scalp hair of two unrelated children. In the first case, a child of Jewish parentage and a native of New York, there was an associated nevus pigmentosus linearis of the neck and arm; in the second, a child born in Syria and of Syrian parentage, the birthmark was confined to the hair. In neither case was there any sign of pigmentation (or depigmentation) of the scalp from which sprang the anomalous growth of hair. The scalps in both children appeared to be entirely normal. In the first case, the right parietal and entire occipital portions of the scalp were covered by a dense growth, over a uniform area, of fine, golden brown, extremely soft and silky hair, which, to the stroking hand, imparted a distinctly "woolly" sensation. The margins of the area covered by abnormal hair were rather sharply defined, but blended with the margins of the adjacent normal hair without showing lines of demarcation; nor was there a gradual admixture of normal and abnormal hair at the borders of the affected areas. In the birthmark area there were no normal hairs. The scalp itself was entirely normal. The back of the neck, a little to the right of the midline, and extending from the hairline down to the first dorsal vertebra, was the seat of a slightly roughened, dark brown, striated, linear, pigmentary nevus, appearing in the form of three parallel narrow bands. On the right elbow and wrist there were several similar formations, with faint evidences of connecting linear bands between the neck and wrist lesions. The upper portion of the pigmented striae blended with the hair nevus at the nape of the neck. In the second case, the entire top of the scalp, from the frontal hair line to the back of the scalp and extending down the back of the scalp to a line approximately at the level of the tops of the ears, and the parietal portions of the head, presented a heavy growth of light brown, soft, kinky, fine textured hair of a decided woolly feel. There was a sharp line of demarcation between the normal hair and the birthmark hair, and there was no blending of the two. The scalp appeared normal.

Mental Hygiene, Albany, N. Y.

11: 1-224 (Jan.) 1927

What Has Mental Hygiene to Offer Childhood? E. L. Richards, Baltimore.—p. 1.
Family Situation and Personality Development. P. Blanchard, Philadelphia.—p. 15.

Formation of Life Patterns L B Hohman, Baltimore —p 23
Behavior Difficulties of Children I S Wile New York —p 38
Personality Make Up and Social Setting of Fifty Jealous Children S Foster, Boston —p 53
Psychiatric Social Workers Technic in Meeting Resistance M L Rannells, Bridgeport, Conn —p 78
Psychology Vocational Application Literature D Fryer, New York —p 124
Psychologic vs Psychiatric Method in Industry E L Ray, New York —p 140
Pathologic Nature of Mental Defect H W Potter Thiells, New York —p 148
Statistics of Mental Diseases H M Pollock, New York —p 156

Physical Therapeutics, Baltimore

45· 165 220 (April) 1927

*Treatment of Multiple Sclerosis by Diathermy J W Stephenson, New York —p 165
*Acute Local Infection Treated by Heat and Radiant Energy F de Kraft and others New York —p 176
*Effect of Mechanical Vibration on Spinal Reflexes M L H A Snow and others New York —p 188

Diathermy Treatment of Multiple Sclerosis —Stephenson reports five cases of multiple sclerosis that he treated by diathermy In two of the cases, during the course of treatment there were distinct evidences of exaggeration of symptoms referable to morbid changes within the cranial cavity, without evidence of an increase of the symptoms referable to spinal cord involvement Stephenson believes that this argues strongly for at least a control of the spin l cord disease bv diathermy

Heat Treatment of Local Infections —Certain local infections may become virulent in type, spreading rapidly and endangering life In cases of this extreme type, de Kraft et al assert that prompt utilization of various rays of the spectrum—high degree dry heat, radiant light and heat, diathermy, ultraviolet rays and roentgen rays—has proved effective

Effect of Mechanical Vibration on Spinal Reflexes.—According to Snow and others, mechanical vibration induces reflex effects through spinal vibration It stimulates or inhibits according to the strength and the length of treatment, and so induces a reflex of contraction or of dilatation over a specific site It stimulates relaxed muscles and relieves muscular tension, as the effect of spinal vibration It may raise or lower blood pressure if uncomplicated, when applied at respective regions Mechanical vibration induces visceral reflex effects, as of contraction or dilatation demonstrable by percussion over specific spinal areas for the heart, lungs, liver, spleen and stomach

Psychiatric Quarterly, Albany, N. Y.

1: 1 135 (Jan) 1927

Neurotic Reaction Symbolism L E Hinsie New York —p 5
*Constitutional Anomalies of Epileptics L P Clark New York —p 26
Duties of Medical Inspectors G W Mills, New York —p 44
Parole System in Massachusetts T A Hoch, Boston —p 48
Development and Extension of Parole System of New York State Hospitals H M Pollock, New York —p 53
Classification of Defective Delinquents V C Branham, Ellenville, N Y —p 59
*Training Idiot and Imbecile G J Veith Thiells N Y —p 70
*Therapeutic Value of Glucose Carbohydrate Metabolism of Feeble minded A N Bronfenbrenner, Thiells, N Y —p 85
Defective Delinquent as State Problem L J Palmer, Napanoch N Y. —p 91
Inadequate Childhood Training Factor in Mental Disease C H Bellinger, Utica, N Y —p 96

1· 141 266 (April) 1927

State and Medical Center F W Parsons, Buffalo —p 141
Care of Mental Defectives in New York State S Brown, II , New York —p 146
Problem of Epilepsy in New York State W. T Shanahan, Sonyea, N Y —p 160
Clinical Differentiation of Functional Nervous and Mental Disorders G H Kirby, New York —p 184
Psychology of Mythology C O Cheney, Utica, N Y —p 198
Malaria Treatment of Schizophrenia L E Hinsie New York —p 210
Epileptics in Institutions in United States H M Pollock and E M Furbush, New York —p 215
Congenital Word Blindness Case B M Minoque, Thiells, N Y —p 226
Investigation of Oedipus and Homosexual Complexes in Schizophrenia. T R Robie, Poughkeepsie, N Y —p 231
Circulatory Ratings in Mental Defectives H W Potter, Thiells, N Y. —p 242
New Mental Hygiene Legislation in New York L M Farrington —p 245

Constitutional Anomalies of Epileptic Persons —Clark contends that the nature and degree of the epileptic attack portray the depth of regression even to that of metro-erotism, as seen in the deepest states of coma There does not exist a constant physical substrate for the epileptic constitution That is, no essential alteration is shown that is not seen in an equal number of other individuals who are, perhaps, biologically inferior either as a result of their inheritance or because of the continued activity of their disease phenomena Just what part is due to the latter, and what proportion may be ascribed to the fundamental constitutional inheritance, are matters concerning which anthropologic data as yet offer no line of demarcation If one wished to take a broader psychoanalytic view, one might say that organic anomalies pave the way to inferiority of mechanism, or that many of the defects present are, at least so far as functioning is concerned, somatic manifestations of narcistic defect colligative of those known to exist in the psychic constitution of epileptic narcism

Training Idiot and Imbecile.—Veith asserts that, contrary to current belief the idiot and the imbecile can be trained to perform quite difficult tasks They are capable of making only a few associations of the most simple nature, and those resulting from identical experiences Thus, their training involves not only laborious but continuous effort in taking them away from their world of inferiority and giving them greater contact with their outside world

Carbohydrate Metabolism of Feebleminded. — Bronfenbrenner has found that the metabolic mechanism of mental defectives is impaired to some extent Their impairment has been shown by their peculiar handling of certain substances which are derived from both food and the disintegration products of bodily cells, and which are the source for the after-hydrolysis fraction of urinary reducing substances The high carbohydrate diet, resulting in an increased quantity of glucose circulating within the metabolic channels, appears to compensate for the impairment Therefore, the customary high carbohydrate diet of institutions for feebleminded is to be regarded not as a matter of a chance or of administrative economy, but as an automatically established way of meeting the metabolic peculiarity of the kind of patients cared for Inflammation is always accompanied by increased disintegration of body cells, which raises the demand for metabolic efficiency Therefore, the administration of dextrose in cases with retarded healing might be of therapeutic value because it induces an adequate handling of the products of cell disintegration This conception has been checked up on two clinical cases with promising results

Southwestern Medicine, Phoenix, Ariz.

11: 159 202 (April) 1927

Early Medical Conditions in Arizona W V Whitmore, Tucson —p 159
Type of Gastroptosis Demanding Surgery H Crouse El Paso —p 163
Artificial and Natural Light O Egbert El Paso —p 166
Etiology of Bronchial Asthma in Tuberculous M Pollak, Albuquerque —p 168
Chronic Pancreatitis Role of Mumps and Measles F D Garrett, El Paso —p 172
Hematomas in Fractures W L Brown and C P Brown, El Paso —p 175
County Medical Society J M Greer, Phoenix —p 176
Id Relation to State and National Organizations D F Harbridge, Phoenix —p 179
Medical Ethics H B Gudgel, Phoenix —p 181
Oral Diagnosis How Obtained L A Neil El Paso —p 182
Choriocarcinoma Case M B Culpepper, Carlsbad, N M —p 185

Surgery, Gynecology and Obstetrics, Chicago

44· 577 720 (May) 1927

*Hydatid Cysts of Liver H W Mills, San Bernardino, Calif —p 577
*Pyelovenous Backflow at Time of Pyelography F Hinman, San Francisco —p 592
*Hemorrhagic Cysts of Kidney E S Judd and H E Simon, Rochester, Minn —p 601
*End Results in Breast Cancer Five Hundred and Sixty Three Cases B F Schreiner and A T Stenstrom Buffalo —p 608
Experimental Study of Cholecystenterostomy M Trautmann, H J Robbins and C C Stewart, Philadelphia —p 612

*Effects of Thyroidectomy and Thyroid Feeding on Cardiac Output. A. Blalock and T. R. Harrison, Nashville, Tenn.—p. 617.
*Latent Postoperative Tetany. H. M. Richter and L. M. Zimmerman, Chicago.—p. 627.
Endometrial Growth in Right Labium Majus: Origin. J. S. Henry, Montreal.—p. 637.
*Prognosis of Endometrial Carcinoma as Indicated by Histologic Structure. W. S. Lindsay, Saskatoon, Canada.—p. 646.
*Partial Gastrectomy for Cancer of Stomach. D. C. Balfour, Rochester, Minn.—p. 659.
*Splinting of Vertebral Column in Pott's Disease. F. Lange, Munich.—p. 668.
Technic for Perineal Prostatectomy: Preservation of External Sphincter. J. H. Morrissey, New York.—p. 671.
Arthrodesis of Ankle. G. F. Straub, Honolulu, Hawaii.—p. 676.
Traumatic Rupture of Diaphragm: Recovery Following Operation. W. E. Shackleton, Kalamazoo, Mich.—p. 684.
*Method of Obtaining Costal Cartilage for Plastic and Reconstruction Surgery. J. D. Kelly, New York.—p. 687.
*Ethylene-Oxygen Anesthesia. C. I. Allen and M. Murray, Detroit.—p. 690.
Radium Therapy in Some Ocular Conditions. W. S. Franklin and F. C. Cordes, San Francisco.—p. 701.
Shortening of Bones of Leg to Correct Inequality of Length. J. A. Brooke, Philadelphia.—p. 703.

Hydatid Cysts of Liver.—Mills analyzes sixty-three cases, thirty-nine of which were seen in California. Thirty-seven cases were treated by marsupialization and drainage. Recurrence was noted in two cases. One case was notable in that embolism of the brachial artery occurred as a sequel, embolectomy being performed.

Pyelovenous Backflow During Pyelography.—It is definitely stated by Hinman that the pyelovenous backflow frequently occurs at the time of pyelography, and that tubular backflow for a short distance into the papillary ducts also occurs.

Hemorrhagic Cysts of Kidney.—Two cases seen in the Mayo Clinic are reported by Judd and Simon, and thirteen others on record are analyzed.

End-Results in Breast Cancer.—Statistics quoted by Schreiner and Stenstrom show definitely that results in operable cases are best obtained by radical operation followed by irradiation, although in some instances, irradiation alone has proved of curative value. In the hopeless, inoperable cases of breast cancer, radium and roentgen-ray treatment has made the remaining days of the patient more comfortable.

Effects of Thyroidectomy and Thyroid Feeding on Cardiac Output.—The effects of thyroidectomy and of the administration of thyroid substance on the cardiac output of dogs have been studied. The following results have been obtained by Blalock and Harrison: The cardiac output is increased in hyperthyroidism and decreased in hypothyroidism. The change in cardiac output is usually somewhat greater than the change in metabolic rate. The administration of iodine to animals receiving thyroid substance is followed by a marked decrease in cardiac output, as well as in metabolic rate. This decrease continues for from six to ten days, after which the cardiac output and metabolic rate increase rapidly. The metabolic rate and cardiac output remain elevated for two months or longer after the cessation of thyroid feeding. The former returns to normal before the latter. Digitalis decreases the output of the heart of dogs with hyperthyroidism, but this effect is somewhat less than the effect on the cardiac output of normal dogs. The oxygen pressure and carbon dioxide pressure may be important factors in the regulation of the cardiac output. Thyroid extract should be used with caution in myxedematous patients presenting evidence of cardiac weakness, and withheld when cardiac decompensation supervenes. Iodine therapy is valuable for a time in patients with hyperthyroidism, and especially so in patients with pronounced cardiac symptoms. The prolonged administration of iodine is probably useless. The administration of digitalis is indicated in hyperthyroidism.

Latent Postoperative Tetany.—Parathyroid injury after goiter operations was demonstrated by Richter and Zimmerman in 14 per cent of the cases. In most of these cases the tetany is purely "latent," and is not detected unless objective examination is made for the signs. Symptoms and signs are for the most part transitory, and probably represent mild, temporary disturbances in parathyroid function. Tetany may be controlled by changing the intestinal flora to one of the aciduric type, and by the administration of calcium by mouth. This regimen, which presumably prevents absorption of toxic materials liberated in the colon from proteolytic putrefaction, consists of a meat-free diet, liquids in large quantities, including at least 1 quart of milk daily, and lactose, from 200 to 300 Gm. in the twenty-four hours. The authors have used Collip's active principle of the parathyroid with very gratifying results. Its use is desirable in those cases in which clinical manifestations do not disappear within a relatively short period of time.

Prognosis of Endometrial Carcinoma.—Seventy cases of fundus carcinoma were studied by Lindsay. Adenoma malignum (twenty-three cases with two deaths) is of relatively low grade malignancy, and responds well to treatment. Preoperative irradiation and hysterectomy gave the best results (seven cases, no deaths), but the almost equally good results of irradiation alone (ten cases, one death) would seem to warrant its selection as the treatment of choice. Adenocarcinoma (thirty cases with twenty-one deaths) offers a very bad prognosis, and demands rigorous treatment from the outset. The best results were obtained by preoperative irradiation and hysterectomy, each of which alone was unsatisfactory. Suspicious cases of fundus carcinoma showed no mortality due to cancer, and appeared to be effectively controlled by irradiation alone. Adeno-acanthoma and adenomyocarcinomatosis have a high mortality and require the same treatment as adenocarcinoma. Embryonal carcinoma was present in two cases only, and the results are in conformity with the belief that better results are obtained in this class of case by irradiation alone than by operation.

Partial Gastrectomy for Cancer.—Partial gastrectomy was performed 120 times in the Mayo Clinic for malignant disease of the stomach and nine deaths resulted, a mortality of 7.5 per cent. Balfour describes the technic employed.

Splinting Vertebral Column in Pott's Disease.—Lange uses one splint made of rust proof steel placed on one side of the spinal column, with a celluloid splint on the other. These splints are fixed with thin steel wire of the rust proof variety instead of silk. The advantage of steel is that it has greater stability than celluloid. A 3 to 4 mm. steel splint would compare quite favorably in stability with a 10 mm. celluloid splint.

Use of Costal Cartilage in Plastic Surgery.—Kelly uses wood carvers' chisels to remove a piece of costal cartilage of any desired size and form. The cartilage may be removed much more easily, more rapidly, with less danger, and more accurately than can be done with the older methods of removal.

Ethylene-Oxygen Anesthesia.—Allen and Murray have found that ethylene-oxygen anesthesia is superior to every other type of anesthetic in every way. Postanesthetic pulmonary complications are rare. Postanesthetic nausea and vomiting occurred in 39.6 per cent of major cases. The cost of ethylene-oxygen anesthesia is about seven and one-half cents a minute.

Texas State Journal of Medicine, Fort Worth

22: 733-794 (April) 1927

Fundamental Causes of Disease. W. S. Bainbridge, New York.—p. 740.
Rupture of Diaphragm: Case. F. C. Beall, Fort Worth.—p. 744.
Diaphragmatic Hernia: Case. J. H. Gambrell, El Paso.—p. 748.
Roentgen-Ray Treatment of Toxic Goiter. J. M. Martin, Dallas.—p. 751.
Radiation for Fibromyoma of Uterus. J. B. Johnson, Galveston.—p. 755.
Roentgen-Ray Treatment of Uterine Myoma and Menorrhagia. C. P. Harris, Houston.—p. 757.
Railroad and Industrial Surgeon. A. P. Howard, Houston.—p. 759.
Traumatism of Optic Nerve. O. S. Hodges, Beaumont.—p. 761.

West Virginia Medical Journal, Charleston

23: 169-224 (April) 1927

Peptic Ulcer. M. Willis, Richmond, Va.—p. 169.
Early Pulmonary Tuberculosis. G. R. Maxwell, Morgantown.—p. 174.
Pulmonary Tuberculosis: Diagnosis. H. G. Wildman, Hopemont.—p. 177.
Torula Infection of Palate and Nasopharynx. E. L. Jones, Wheeling.—p. 184.
Middle Meatus in Paranasal Sinusitis. J. B. McMurray, Washington, Pa.—p. 188.
Radiography in Paranasal Sinusitis. H. V. Lusher, Huntington.—p. 190.
Trachoma. W. C. Thomas, Huntington.—p. 193.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Biochemical Journal, London

21: 1 264, 1927

*Variations in Chemical Composition of Normal Human Colostrum and Early Milk M F Lowenfeld, S T Widdows, M Bond and E. I. Taylor —p 1
Significance of Gelatin for Bacterial Growth B S Platt —p 16
Peroxide Formation by Pneumococcus Relation to Bacterial Oxidation-Reduction Reactions B S Platt —p 19
Plant Oxidation Nature and Reactions of "Tyrin" B S Platt and A *Wormall —p 26*
*Micro Estimation of Chlorine in Whole Blood Serum or Corpuscles F. H. Smirk —p 31
*Micro Estimation of Iron in Blood F H Smirk —p 36
*Carbohydrate Metabolism II Influence of Methylglyoxal and Other Possible Intermediaries on Insulin Hypoglycemia W O Kermack, C G Lambie and R H Slater —p 40
Heat Denaturation of Proteins IV Free Basic and Acidic Groups of Fresh and Denatured Hemoglobin P S Lewis —p 46.
Fate of Desoxyglucose in Rabbit L B Winter —p 51
Kinetics of Hemolytic Systems II Series of Ryvosh E Ponder —p 56
*Biochemistry of Aqueous Humor S Duke Elder —p 66
Absorption Spectrum of Cholesterol Biologic Significance to Vitamin D. I M Heilbron, E D Kamm and R A Morton —p 78
Feeding of Xanthophyll to Rats on Diet Deficient in Vitamin A S G Willimott and T Moore —p 86
Tyrosinase Tyrosine Reaction H S Raper —p 89
Constitution and Synthesis of Spermidine H W. Dudley, O Rosenheim and W W Starling —p 97
Growth of Yeast III Influence of Volume of Medium Employed G L Peskett —p 104
Stomach Oil of Fulmar Petrel O Rosenheim and T A Webster —p 111.
Kinetics of Hemolytic Systems III Time Dilution Curves and Zones of Action E Ponder —p 119
Relation of Cholesterol to Vitamin D O Rosenheim and T A Webster. —p 127.
Cholesterol Content of Normal Human Plasma· I J A Gardner and H *Gainsborough —p 130*
Id II Attraction of Proteins of Plasma for Sterols J A Gardner and H Gainsborough —p 141
Effects of Changes in Environment on Resting Bacteria J H Quastel and W R Woolridge —p 148
Chemistry of Thyroxine C R Harington and G Barger —p 169
Echinochrome R K Cannan —p 184
Inorganic Phosphate and Labile Form of Organic Phosphate in Gastrocnemius of Frog P Eggleton and G P Eggleton —p 190
Preparation of Yeast Juice by Buchner's Method A Harden and F R. Henley —p 196
Aerobic and Anaerobic Metabolism of Common Cockroach: II. W. K. Slater —p 198
Phosphorus Compounds of Milk III Dephosphorized Caseinogen Action of Alkali on Caseinogen C Rimington —p 204
*Effect of Excessive Radiation with Ultraviolet Light on Growth of Rats. J L Leigh Clare —p 208
*Antirachitic Value of Fresh Spinach M H. Roscoe .—p 211
Optical Rotatory Power and Dispersion of Proteins L F Hewitt —p 216
Ether Soluble Substances of Cabbage Leaf Cytoplasm A C Chibnall and H J Channon —p 225
Id II Calcium Salts of Glyceridephosphoric Acids. A. C Chibnall and H J Channon —p 233
Analysis of Proteins VIII. Estimation of Cystine in Modified Van Slyke Method R H. A Plimmer and J Lowndes —p 247.
Changes in Amino Acids in Proteins of Hen's Egg During Development. R H A Plimmer and J Lowndes — p 254
Estimation of Chlorine in Milk A D Husband and W Godden —p 259.
Bacterial Decomposition of Tobacco as Leading to Formation of Bases in Presence of Water. A. Faitelowitz —p 262.

Chemical Composition of Colostrum and Early Milk.—Lowenfeld et al studied the chemical composition of milk of the first fourteen days of lactation There appears to be a difference between the milk of primiparas and multiparas with regard to the behavior, in the early days of lactation, of the protein and fat. The protein and ash content of the milk vary regularly according to the day of lactation, being very high in primiparas, less so in multiparas, on the second and third days, and falling steeply during the first week to reach an approximately normal level The sugar content varies also according to the day of lactation, but inversely as the protein, and less regularly, being at its lowest in the early days and rising irregularly to a normal level by the end of the second week The fat content varies only according to the physical conditions of the breast and the actual extraction, and not in relation to the day after parturition, but in primiparas the general behavior is reversed in the first days of lactation The calcium content varies up to the fifteenth day among individual women, but not according to any factors concerned with individual lactation, and is uninfluenced by factors local to the breast. There is some possibility that the protein content of the milk rises slightly at the end of a single feed, the difference being greater when the samples are taken in relation to an actual feed than when only the first and last portions of an artificially emptied gland are considered. The lactose content of the milk appears to be higher at the beginning than at the end of a feed. The total solids vary roughly as the fat.

Estimating Blood Chlorides.—A simple and rapid method of estimating blood chlorides on 0.2 cc is described by Smirk. The principle of this method is the destruction of the organic matter of the blood by ammonium persulphate and concentrated nitric acid, with the usual precipitation of the chlorine as silver chloride by excess of silver nitrate. The excess is titrated against alcoholic ammonium thiocyanate solution, a concentrated solution of ferric alum being used as the indicator The titration is performed in the presence of acetone, which intensifies the end point by decreasing the dissociation of the ferric thiocyanate, and for a similar reason renders it more permanent. This enables a series of titrations to be brought to the same depth of red, which, with the sharpened gradation of the end-point coloration, permits accurate comparative observations to be made.

Estimation of Blood Iron.—A simple and rapid method for the accurate estimation of blood iron with the use of 0.2 cc. of blood is described by Smirk The method depends on a colorimetric comparison of the iron as ferric thiocyanate with an artificial color standard consisting of a mixture of cochineal, 4 cc ; methyl red, 3.2 cc, and hydrochloric acid, 4 cc, dissolved in an equal mixture of acetone and water To the approximate depth of color required, a final adjustment of tint is made by adding drops of methyl red if the orange tint predominates, and cochineal solution if the red is too clear. The color is permanent, and indistinguishable from that of the thiocyanate.

Recovery from Insulin Hypoglycemia.—No significant difference was observed by Kermack et al. in the time taken to recover from insulin hypoglycemia following intravenous dihydroxyacetone administration as compared with dextrose. Methylglyoxal and sodium pyruvate fail to cause animals to recover from insulin hypoglycemia and appear to have a toxic action Negative results were also obtained with sodium lactate, glycerin, sodium citrate and rhamnose.

Biochemistry of Aqueous Humor.—Duke-Elder asserts that from the biochemical point of view neither the normal nor the abnormal aqueous humor shows evidence of the existence of any special secretory mechanism in its elaboration, but appears to be rather a dialysate of the capillary blood.

Effect of Excessive Ultraviolet Irradiation.—Observations that were made by Leigh-Clare showed that provided the eyes were shielded, exposure of young growing rats to ultraviolet irradiation for periods up to thirty minutes daily was not found to have a deleterious effect on the growth and well being of the rats (although this dose was found to be fifteen times the adequate dose for male rats). It was also found that exposure for thirty minutes to the lamp had no more beneficial results than exposure for the shorter periods.

Antirachitic Value of Fresh Spinach.—The presence of vitamin D in small amounts in fresh spinach was demonstrated by Roscoe His experiments do not afford any evidence in favor of the theory that vitamin D, after synthesis in the leaf, is rapidly removed

Edinburgh Medical Journal

34: 193 252 (April) 1927

*Synthetic Thyroxine. D M Lyon and F. A. Redhead.—p. 194.
Mental Deficiency R D Clarkson —p 200
*Seroprophylaxis of Measles W. T. Benson and J D. H Lawrie —p. 216
*Action of Ammonium Benzoate on Urine. J. M. Johnston —p 223.
Onset of Postencephalitic Parkinsonism. J. P. Steel —p 231.

Synthetic Thyroxine.—Last year, Harington and Barger succeeded in synthesizing a substance which corresponds in all particulars with thyroxine isolated from the normal gland This material has been tested by Lyon and Redhead for physiologic activity on two myxedematous subjects Striking changes followed the administration of the drug The metabolic rate rose immediately and rapidly, declining after the drug was discontinued The rise in the temperature and the pulse changes closely parallel the alterations in the basal metabolic rate Reduction in weight took place in both subjects Notable change in the blood pressure was not observed Diuresis and diarrhea were caused after each injection in one case The clinical improvement was striking

Seroprophylaxis of Measles.—The experience of Benson and Lawrie with the serum prophylaxis of measles has been very satisfactory Of twelve susceptible children exposed to infection with the measles virus, eleven escaped infection subsequent to passive immunization with convalescent measles serum, while one developed a highly modified form of the disease The eleven children who escaped infection received their prophylactic injection of serum on, or before, the fourth day of exposure The child who developed the extremely mild attack of measles did not receive the injection until the sixth day of exposure The serum was injected intramuscularly The dose was 10 cc Of nine nonimmunized children, in whom the conditions of contact with measles were, if anything, less intimate than in the foregoing group, two developed typical measles after a period of incubation varying from ten to fourteen days

Action of Ammonium Benzoate on Urine.—Clinically, Johnston found that ammonium benzoate produced or maintained an acid urine, and when the urine in *B coli* cystitis was acid, more relief to symptoms was procured by alkalizing with sodium bicarbonate before administering the benzoate Some alkaline cloudy urines rapidly became clear, with relief of symptoms, but in obstinate cases of chronic cystitis, especially in women, ammonium benzoate merely prepared the way for methenamine, the combination of these two drugs giving good results In treating cystitis with ammonium benzoate, the first effect is the production of a moderate degree of diuresis, which is maintained, and this, no doubt, plays a part by flushing the urinary passages That ammonium benzoate has an antiseptic action is doubtful, and the drug is certainly not to be relied on clinically when used alone To ascribe an antiseptic power to it because of its acidifying properties is fallacious, as the drug cannot produce a urine sufficiently acid to prohibit the growth of organisms Any effect must be due to the salts of unconjugated benzoic acid in the urine, a 5 to 8 per cent solution of which seemed capable of slightly retarding the growth of *B coli*

Lancet, London

1 691 742 (April 2) 1927

Surgery of Spinal Cord and Membranes D Armour—p 691
Anterior Subluxation of Atlas W A Oppel—p 698
Phlebitis and Thrombophlebitis of Lower Extremities and Superficial Veins of Lower Abdomen W Bain—p 701
*Case of Rat Bite Fever T L Hardy and H M Savery—p 703
*Misdiagnosis in Case of Acute Intestinal Obstruction C E H Anson—p 704
*Relief of Migraine H C Rook—p 705

Rat Bite Fever—The case recorded by Hardy and Savery was unusual in that at no time were there signs of recurrent inflammation in the wound, which remained healed and painless throughout, nor was there enlargement of the lymph glands

Acute Intestinal Obstruction—In Anson s case the symptoms present led to a diagnosis of carcinoma of the rectum and as obstructive symptoms increased, a colostomy was performed A condition of diffuse carcinomatosis was found with small nodules over the small intestines and colon and also in the mesentery The patient died two months later A necropsy was performed The mass felt by rectum proved to be a secondary deposit situated between the rectum and the bladder The primary growth was situated in the cecum a typical adenocarcinoma with very well marked colloid degeneration A huge mass of secondary carcinoma was also found beneath the left lobe of the liver

Treatment of Migraine—The treatment employed by Rook consisted of giving from 2 to 4 drachms (7 5 to 15 cc) of a 50 per cent solution of magnesium sulphate one hour before rising, and following this, the patient was instructed to lie semiprone on the right side At the end of the hour, a large tumblerful of hot water or hot weak tea is taken This is most important, since if the salts are not evacuated within two or three hours, a feeling of intense depression is produced which may result in an attack The day or half-day previous to taking the salts is a starvation day, but this should be done not more often than once a week Certain articles of diet must be strictly limited These are fats of all sorts, and in certain cases eggs, also chocolate, cocoa, coffee and alcohol.

Practitioner, London

118· 205 272 (April) 1927

Malignant Disease of Tonsil W Milligan—p 205
Treatment of Wounds by Water Bed A Eiselsberg—p 213
Acute Intussusception in Infants L Rogers—p 219
Marriage N Haire—p 227
Research Problems in Diseases of Nervous System G Khonsky—p 235,
Disorders of Pregnancy and Vicious Circle J B Hurry—p 239
Bournemouth as Health Resort A D Edwards—p 258
Torquay as Health Resort T Dunlop—p 261
Newquay as Health Resort A G P Hardwick—p 265

Quarterly Journal of Medicine, London

20 219 352 (April) 1927

*Clinical Classification of Premature Ventricular Beats G Bourne—p 219
*Circulation Rate in Man by Ethyl Iodide Method H W Davies and A R Gilchrist—p 245
*Fractional Analysis of Gastric Contents R J Duthie—p 265
*Gastric Function in Chronic Arthritis and Fibrositis S Miller and F B Smith—p 271
*Effect of Mineral Acid on Acid Base Regulation in Health and in Nephritis G C Linder—p 285
*Heredity in Simple Goiter W R Brain—p 303
*Radium and Blood Cholesterol C E Brunton—p 321
Clinical Duration of Saccular Aortic Aneurysm in British Born Subjects G H Colt—p 331
Effect of Administration of Parathyroid on Serum Calcium C P Stewart and G H Percival—p 349

Enumerating Premature Ventricular Beats—A method is described by Bourne for enumerating accurately, over long periods of time, the number of normal and of premature ventricular beats The effects of exercise, posture, amyl nitrite and atropine on the number of premature beats, and simultaneously on the heart rate, have been studied in a series of twenty-eight cases in which such premature beats were of reasonably frequent occurrence The curves taken from thirteen of these cases suggest reentry rather than parasystole as being a causative mechanism

Circulation Rate in Man—The data in 118 determinations on eighteen subjects are presented by Davies and Gilchrist The ethyl iodide method of estimating circulation rate is said to possess many advantages over methods hitherto in use Determinations can be carried out in a few minutes and do not produce discomfort or disturbance to the subject The results are reasonably consistent, provided constant conditions are maintained and errors of technic are avoided Excessive amounts of ethyl iodide appear to have a depressant effect on the circulation rate in certain individuals For this reason, repeated estimations over too short a period are liable to be fallacious In the present series of observations, there is no relationship between the circulation rate and any other physical measurements in different individuals Considerable variations in circulation rate may be associated with varying conditions of metabolism activity, environmental temperature, posture and emotional excitement For this reason, the conditions under which observations are made on any given subject must be carefully standardized that comparable results may be maintained

Fractional Analysis of Gastric Contents—A method of obtaining simultaneously samples of gastric contents at two points is described by Duthie, and the variations of the free acidity and total chlorides are compared in three cases Differences in the free acid and total chlorides were found in the upper and lower regions of the stomach during the digestive cycle in three cases Duodenal regurgitation was shown to affect the gastric contents chiefly in the lower part of the stomach.

Gastric Function in Arthritis.—Miller and Smith assert that the association of achlorhydria and hypochlorhydria with chronic arthritis is not so marked as to justify the conclusion that it is a primary factor in the etiology of the disease. In general, the frequency of abnormal gastric acidity approaches that found in a wide group of other diseases; it may be the result of depression of function due to debility and asthenia There is evidence that achlorhydria in chronic arthitis allows more ready multiplication in the bowel of streptococci, and may be, therefore, an accessory factor in the etiology of the disease

Effect of Mineral Acid on Acid-Base Regulation.—Dilute hydrochloric acid, in amounts corresponding to from 500 to 1,000 cc of tenth-normal acid a day, was given by Linder to four normal persons and to six patients with nephritis for periods of two to four days In the control cases a quantity of fixed base was available for excretion with the acid. This store was exhausted in two or three days, and its place was taken by ammonia, which was excreted in increasing amounts The extra base was derived from cellular and extracellular water. *In one mild case of chronic nephritis, similar results* were obtained The patients with chronic hydremic nephritis without gross edema showed an adequate response in ammonia formation, but the extra excretion of fixed base was lacking The azotemic patients showed diminished power to form extra ammonia This defect became greater as renal function failed In compensation there was a much greater excretion of fixed base, which in one case was derived entirely from cellular water The changes in the serum consisted of increases in the chloride and decreases in bicarbonate and p_H The total base usually decreased slightly. In the patients these changes were more extensive, giving evidence of failure to adjust the acid-base balance with the customary delicacy. In the two patients whose renal function was greatly impaired, severe acidosis was produced.

Heredity in Simple Goiter.—A series of six families is reported on by Bram, including among them twenty-six cases of simple goiter In two of these families cases occurred in four successive generations A second series of five families is reported, containing twelve cases of simple goiter associated with congenital deaf-mutism Evidence is brought forward in support of the view that hereditary predisposition is a factor in the etiology of simple goiter in some cases. The relation of predisposition and environment in such cases is discussed An explanation of the differences between the sexes in respect to the incidence and transmission of goiter is suggested The inheritance of goiter is considered in relation to mendelian laws It is concluded that simple goiter may be the manifestation of more than one abnormal hereditary factor, two of which can be distinguished by their behavior *in transmission*

Radium and Blood Cholesterol.—Brunton estimated the total cholesterol content of the blood and plasma of thirteen patients suffering from cancer. The average concentration was 149 mg per hundred cubic centimeters. In the oxalated plasmas of forty-four patients, the average concentration was 169 mg per hundred cubic centimeters. After operations for nonmalignant conditions, after treatment for malignant disease by diathermy, and after its treatment by radon, the plasma cholesterol may either increase or decrease. In thirty patients examined before and after treatment by radon, no relation was found between the alteration in cholesterol concentration, and either the dose of radon or the time of its action within the limit of seventy-two hours.

Tubercle, London

8: 301 352 (April) 1927

*Experiment in Occupational Therapy J. B McDougall —p 301
*Hemolytic Streptococci as Secondary Infectors in Pulmonary Tuberculosis W M Cumming —p 308
*Significance of Pulse Rate in Phthisis. J. R. Earp —p 314.
Binucleate Cells and Giant Cells in Tissue Cultures and Similarity of Latter to Giant Cells of Tuberculous Lesions. W. H. Lewis —p 317.

Experiment in Occupational Therapy.—McDougall describes a plan in effect at Wormly whereby an opportunity is given ex-patients to work for a livelihood under open air conditions and under medical supervision. Social activities first provided the funds. Now there is a newspaper, a store, wool farming and a pig farm to provide funds for the maintenance of this work.

Hemolytic Streptococci in Pulmonary Tuberculosis.—Of 119 patients suffering from pulmonary tuberculosis, twenty-two have been shown by Cumming to have hemolytic streptococci, indistinguishable from the ordinary hemolytic streptococci of surgical practice in the sputum. The occurrence of these organisms in the sputum has been shown to be related to a definite but limited extent with the incidence of hemoptysis and hectic fever and with the mortality. Possible lines of autogenous streptococcal vaccine therapy are discussed.

Significance of Pulse Rate in Phthisis.—Earp points out that whereas the minimum pulse rate (during the day) in tuberculosis is of no significance, the maximum pulse rate is of considerable significance. The range of pulse rate is even more significant than the maximum pulse rate.

Acta Scholae Medicinalis, Kioto, Japan

9: 1-124, 1926

Precision Complement Fixation Method and Resultant Findings R Torikata —p 1.
Transmicroscopic Structure of Tissues: Disposition of Inorganic Substance in Bones and Dentine by Means of Roentgen Ray. S Funaoka —p 37.
Id : II Disposition of Microcrystalls in Enamel of Teeth S. Funaoka. —p 41
Caliber of Nerve Fibers of Anterior Spinal Roots of Man. Y. Matsui —p 45
Ganglion Cells in Ganglion Stellatum of Mammals Y. Matsui —p 51.
Mode of Bile Outflow: III. After Removal of Gallbladder. K Nakashima —p 59
Solitary Complement Fixation Reaction: I. Ability of Different Substances to Combine in Solitary Condition with Complement. Y Imamaki —p 69
Id . II. Relation of Heating of Tested Material to Its Ability to Fix in Solitary Condition a Complement. Y. Imamaki —p 91
Id : III Relation of Ether Extraction of Substances to Their Ability to Fix in Solitary Condition Their Complement. Y. Imamaki —p. 103.

9: 125 265, 1926

Solitary Complement Fixation Reaction: IV. Spontaneous Autocomplementosis, Homocomplementosis and Heterocomplementosis Y. Imamaki. —p 125
Id ; V. Behavior of Ether Extraction and of Healing of Antigens of Autocomplementosis, Homocomplementosis and Heterocomplementosis. Y. Imamaki —p 151.
Uterine Muscle of Mammals M Shinagawa —p 177
General Formula of Heat Inactivation of Antibodies T Nishi —p 209.
Adsorption of Dyes in Gallbladder of Rabbit K Nakashima —p 225
Cataphoresis of Blood Corpuscles, Spermatozoa, Yeast and Eggs of Parasites. K. Tomita —p 237.

Japan Medical World, Tokyo

7: 1-30 (Jan 15) 1927

*Heredity and Biochemical Structure of Human Blood. T. Furuhata, K Ichida and T. Kishi —p 1
Wild Rabbit Disease and Tularemia Serologically Considered. H. Ohara. —p 10
Resumé of Works on Ascaris Recently Published from Parasitology Laboratory, Keio University Medical College M Koidzumi —p. 12
Prevalence of Tuberculosis and Antituberculosis Campaign in Japan. R. Takano —p. 16.

Heredity of Blood Groups.—Furuhata, Ichida and Kishi classify human blood into three homozygotes of $\frac{ab}{ab}$, $\frac{Ab}{Ab}$, $\frac{aB}{aB}$ and three heterozygotes of $\frac{Ab}{ab}$, $\frac{aB}{ab}$, $\frac{Ab}{aB}$ The biochemical structures of human blood (iso-agglutinogen and iso-agglutinins) are said to be inherited by Mendel's law. A combination of one homozygote with another homozygote produces one kind of offspring. A combination of the same kind of homozygotes produces the same and pure type as parents. A combination of different types of homozygotes produces a hybrid. A combination of a homozygote and a heterozygote produces two types of offspring in the same proportions. In combination of heterozygotes of the same types, the grandparents and parents produce the offspring in the proportions of 1:2:1. Four types of children in the same proportion are born from a combination of heterozygotes of different types. Among 1,890 persons, representing 399 families, five cases were found that did not conform to the authors' theory.

Bruxelles-Médical, Brussels

7: 483-515 (Feb. 13) 1927

*Classification and Treatment of Tuberculids. J. Schaumann.—p. 483.
*Syphilis and Multiple Sclerosis. M. Molhant.—p. 498.

Classification and Treatment of Tuberculids.—Schaumann's paper is devoted to the study of tuberculids of tuberculous origin, and to that of paratuberculous lesions of the skin, such as lupus erythematosus, malignant lymphogranulomatosis, lupus pernio and multiple benign sacroids. Various methods of treatment are discussed. Finsen baths are useful. Gradually increasing doses of tuberculin injected into or beneath the skin are of great benefit. Tuberculin combined with neoarsphenamine appears to be the preferable therapeutic method. Good results were cited from intravenous injections of a gold preparation. Ten injections of graduated doses, from 0.01 to 0.1 Gm., are given, one a week. Of the author's twenty patients with lupus erythematosus thus treated, nine were cured, and ten improved. In one case, the treatment failed. Cure of a case of lupus pernio with large doses of sodium cacodylate was recently recorded.

Analogy Between Syphilis and Multiple Sclerosis.—Molhant emphasizes the resemblance between syphilis of the spinal cord and multiple sclerosis. It is evident, he says, in the clinical picture, in the serologic reaction and in the course of the two diseases. The efficacy of arsenical treatment in multiple sclerosis reenforces the analogy.

Bulletin de l'Académie de Médecine, Paris

97: 467-498 (April 12) 1927. Partial Index

Pathogenesis and Pathologic Physiology of Herpes Zoster. G. Marinesco and S. Draganesco.—p. 473.

97: 499-516 (April 19) 1927

*Tuberculosis and Gas Poisoning During the War. C. Achard.—p. 502.
Mendelian Heredity of Tumors in Man. F. Miche.—p. 510.
Conjunctival Jaundice in Appendicitis. C. P. Caplesco.—p. 513.

Tuberculosis as Remote Sequela of Gas Poisoning During the War.—Achard's conclusions are based on personal clinical and roentgenologic observations and on those of other authors. Tuberculosis occurring recently in persons affected with gas poisoning during the war presents a chronic fibrous form. It follows respiratory disturbances appearing at short intervals. Only a history of repeated bronchopulmonary lesions justifies incrimination of gas poisoning in tuberculosis of war veterans.

97: 517-544 (April 26) 1927

Reform of Medical Education. M. Labbé.—p. 522.
New Classification of Mineral Waters. A. Chassevant and M. Valls.—p. 530.
Synthalin in Treatment of Diabetes. H. Chabanier and M. Lebert.—p. 535.
Intracardiac Injections in Treatment of Pulmonary Diseases. Cherechewski et al.—p. 540.

Comptes Rendus de la Société de Biologie, Paris

96: 305-368 (Feb. 11) 1927. Partial Index

*The Amount of Oxalate in Normal Cerebrospinal Fluid. C. O. Guillaumin.—p. 316.
*Oxalate of the Blood in Normal and Pathologic Conditions. C. O. Guillaumin.—p. 317.
*Cystinuria and Tuberculosis. R. Monceaux.—p. 323.
*Antigen Property of Bacteriophages. E. Wollman and E. Wollman.—p. 332.
*Bacteriology of Typhus in Man. B. Fejgin et al.—p. 341.
Influence of Fats on Gastric Digestion. W. Filinski and W. Markert.—p. 344.
Action of Vegetable Juices on Gastric Secretion. W. Orlowski.—p. 352.
*Serologic Study of the Bacillus of Whooping Cough. M. Kristensen.—p. 355.
*The p_H of the Blood During Glycolysis. A. Roche and J. Roche.—p. 359.
*Glycolysis Speed and the p_H. A. Roche and J. Roche.—p. 361.
*The Amount of Blood Platelets in Cancer. E. Rud.—p. 364.
*Blood Coagulation in Cancer. E. Rud.—p. 366.

Calcium Oxalate in the Cerebrospinal Fluid and in the Blood.—Guillaumin asserts that the exact amount of calcium oxalate in normal cerebrospinal fluid and in blood serum cannot be determined with the present methods of measurement. Obviously, it is less than 0.002 Gm. per liter. In pathologic conditions, the oxalate content of the blood may range between 0.002 and 0.015 Gm., never exceeding 0.04 Gm. per liter. Oxalemia was found in obesity, diabetes, gout and uremia.

Cystinuria in Tuberculosis.—Defective sulphur metabolism is one of the nutritional disturbances occurring in tuberculosis. The incompletely oxidized sulphur appears in the urine mostly in the form of cystine. The latter was found in the urine of over 40 per cent of tuberculous patients. The cystinuria apparently results from an insufficient aminoacidolytic functioning of the liver. On normal functioning, the cystine is transformed into taurin.

Antigen Property of Bacteriophages.—Wollman and Wollman experimented on antidysenteric and antityphoid bacteriophages that have been in contact only with corresponding bacilli. Serum prepared with the antityphoid bacteriophage was found to neutralize not only the lytic action of the bacteriophage on the typhoid and the Shiga bacilli, but also the action of the antidysenteric bacteriophage on the two bacilli. Moreover, while the antityphoid bacteriophage is without action on the bacillus of dysentery, serum prepared with this bacteriophage neutralizes the lytic action of the antidysenteric bacteriophage on both bacilli. The antigenic action of bacteriophages on micro-organisms of the same group, does not depend on their lytic action.

Bacteriology of Typhus in Man.—Fejgin, Kaczynski and Szwojnicka made 143 examinations of the blood, urine and stools of typhus patients. Several strains of the X group were isolated. The results confirm those of other authors.

Serologic Researches on the Bacillus of Whooping Cough.—Kristensen's study was made on cultures of bacillus present in the mucus and in the blood of patients with whooping cough. The patients lived in various districts of Copenhagen. Each culture served for complement fixation reaction in each of the specimens of blood. Thus a total of 100 experiments were made. All the reactions were identical. The author notes that the results disagree with those of Krumwiede, Mishulow and Oldenbusch, who found two different serologic types of the whooping cough bacillus.

Variations in the p_H of the Blood in the Course of Glycolysis.—In Roche and Roche's experience, reduction of the p_H of the blood paralleled that of the glucose. The greater and more rapid the glycolysis, the more did the p_H decrease. This explains the spontaneous disappearance of carbonic acid from the blood, observed by Evans in vitro. Evidently, in researches on glycolysis, variations in the p_H of the blood, capable of causing coagulation, should be avoided. For this purpose, a 0.3 per cent solution of sodium citrate or defibrination is effectual.

The Amount of Blood Platelets in Patients with Cancer.—Rud noted an increased amount of blood platelets in forty women with cancer of the uterine cervix. The number of the platelets exceeded the normal by 25 per cent; the increase corresponding to the gravity of the case. In cases with a complicating anemia, the excess of platelets reached about 50 per cent. Coagulation in vitro of the blood of all the patients was considerably accelerated. The phenomenon may be due to the excess of platelets or of fibrin in the blood.

Journal of Médecine de Bordeaux et du Sud-Ouest

104: 91-132 (Feb. 10) 1927

*Eye Disturbances of Dental Origin. C. Fromaget.—p. 91.
General Paralysis in the Elderly. G. Auriat and J. Sabelle.—p. 99.
Mental Confusion Following Vaccination. C. Perrens.—p. 104.
Axial Torsion of a Fibromatous Uterus. A Chauvenet.—p. 106.

Eye Disturbances of Dental Origin.—Fromaget points out the double mechanism by which the eye may become involved in the course of dental infection. Circumscribed infection of a tooth may irritate the ends of the trigeminal and sympathetic nerves, causing vasodilatation of the eye vessels. Thus reflex disturbances of the eye occur. Or bacilli may be carried by the blood stream from the dental focus to the eye, where they form a focus of infection. According to Rosenow, the infection is induced chiefly by *Streptococcus viridans*, which seems to have an elective affinity for the eye. Many transient visual disturbances are of the reflex type. They disappear as soon as the infectious process in the tooth subsides. In certain cases, the sinuses play an intermediary rôle between the dental infection and the ocular lesion. Search for the pathogenic micro-organism should be made in the blood, the periapical foci, and, especially, in the root-canals. The sinuses, as well as the dental and periapical foci, should be examined with the roentgen ray.

Lyon Chirurgical

24: 1-128 (Jan.-Feb.) 1927

Spontaneous Gangrene and Suprarenalectomy. W. A. Oppel.—p. 1.
Lipiodol in Urethrography in Cases of Calculus. A. Cassuto.—p. 25.
*Neuroramisectomy for Gastric Crises in Tabes. J. Verbrugge and L. van Bogaert.—p. 32.
Chondroma of Cervical Vertebrae M. Desjacques.—p. 40.
New Type of Gastroduodenal Anastomosis After Gastrectomy. R. Leriche.—p. 44.

Severing Rami Communicantes for Gastric Crises in Tabes.—In one of Verbrugge and van Bogaert's cases of tabes, the right intercostal nerves and the corresponding rami communicantes were severed between the seventh and the tenth dorsal vertebrae. The gastric phenomena and the girdle pains subsided immediately. The same operation previously done on the left side had been without effect. The patient died shortly after from cachexia. In another tabetic patient, severing the right intercostal nerves and the rami communicantes between the fifth and the eleventh dorsal vertebrae brought about disappearance of gastric crises. There has not been a recurrence for nine months (to date). The operative technic is given.

Paris Médical

61: 389-404 (April 23) 1927

*Rôle of Vitamins and Insulin in Nutrition. C. Funk.—p. 389.
Medical Treatment of Cancer. A. Lumière.—p. 392.
Pneumothorax and Radiography. R. Hervé.—p. 398.
Note on Beriberi. M. Léger.—p. 402.

Rôle of Vitamins and of Insulin in Nutrition.—Substance A (vitamin A), Funk says, represents the pancreatic hormone. Substance B or anti-insulin exerts an action antagonistic to that of insulin. Substance C or co-insulin is indispensable for activation of substance A. Unlike insulin, substance A is without effect in healthy persons, while in diabetics it reduces the amount of the blood sugar. In normal conditions, the content of substance C in the blood is proportional to that of substance A. Introduction of substance A into the organism causes a surplus which cannot be activated, and consequently remains inert. In the blood of diabetic persons, substance A is deficient, while the amount of substance C is greatly increased. The fact that substance A reduces the blood sugar in diabetics is thus explained. Substance A does not cause hydremia or hypoglycemic shock which are sometimes observed with insulin. In rabbits substance B induced hyperglycemia accompanied by pancreatic disturbances. The animals lost in weight; they developed hydremia and grave anemia. Substances A and B are present in the pancreas and in the liver; they are found in almost all alimentary products. These facts may throw light on the etiology of diabetes.

61: 405-420 (April 30) 1927

Scepticism in Therapeutics. P. Savy.—p. 405.
*Cecal Spasm in Appendicitis. A. Fraikin.—p. 414.
*Pharyngeal Disturbances Associated with Biliary Diseases. G. Parturier and Vallerix.—p. 415.

Spasm of the Cecum in Chronic Appendicitis.—Fraikin points out the presence of cecal spasm in chronic appendicitis. The spasm can be seen in the roentgenogram. It is confined to the cecal fundus and the cecal border where the appendix is inserted. It is visible six or seven hours after a barium sulphate meal. Sometimes the spasm appears only on palpation of the cecum. The spasmodic reflex is followed by expulsion of the barium into the ascending colon. Clinically, the spasm is revealed by colic. It may be of diagnostic value in chronic appendicitis.

Pharyngeal Disturbances Associated with Biliary Diseases.—Parturier and Vallerix explain the origin of rhinopharyngeal lesions associated with biliary diseases. Rhinopharyngeal disturbances may precede or succeed those of the liver or biliary tract. Sometimes lesions develop simultaneously and independently in the liver and in the nasopharyngeal tract. Colloidoclastic shock may be a common factor in these diseases.

Presse Médicale, Paris

35: 481-496 (April 16) 1927

*Modern Theories of Vasomotion. R. Leriche and R. Fontaine.—p. 481.
Dietetic Value of Vegetables. W. Orlowski.—p. 482.

Critique of Modern Theories of Vasomotor Activity, Based on Surgical Facts.—In Leriche and Fontaine's experience, severing of all vasomotor rami in an extremity has never caused vasomotor paralysis or phenomena of vasoconstriction. The reaction to cold and to heat was conserved. In 300 operations in man and animals, severing of sympathetic nerves induced a transient vasodilatation in the opposite extremity as well as in the involved extremity; frequently in all four extremities. Severing of certain sensory nerves caused analogous phenomena of vasodilatation. Severing of mixed nerves, such as the sciatic, did not abolish vasomotor activity. Phenomena of hyperemia were observed in the involved parts a few months after the operation. Three months after extensive destruction of the spinal cord, vasomotor reactions in the lower extremities were still present. The facts contradict the classic theory according to which efferent nerves convey vasoconstrictor or vasodilator impulses from the spinal cord to the periphery. The theory that vasomotor centers are present in the arterial wall agrees better with reality, the authors say. Sensory fibers join the intra-arterial centers to the ganglionic and medullary centers.

35: 497-512 (April 20) 1927

*Surgery for Pain. R. Leriche.—p. 497.
Electrocardiography in Coronary Obliteration. A. Clerc.—p. 499.
Fracture of Astragalus with Disarticulation of Posterior Fragment. P. Feutelais.—p. 502.

Surgery for Relieving Pain.—Leriche discusses the anatomic and physiologic factors of pain. He concludes that it is frequently difficult to establish the exact location of pain. Hence, removal of ganglions may be without effect; furthermore, it is not yet known how detrimental the operation is. Leriche warns against posterior radicotomy. Relief of pain is not always attained. He is against cordotomy, although the operation was introduced into France by himself. Neurotomy requires certain precautions. It should be borne in mind that anastomosis of the superior cervical ganglion with vagal fibers is possible. Overlooking of the fact may result in paralysis of the palate and of the vocal cords. In interventions on the lumbar sympathetic, the lymphatics should be respected; while in periarterial sympathectomy care must be taken not to injure the arteries, to avert thrombosis. The chief cause of recurrence of pain after neurotomy is the formation of a neuroma on the nerve scar. The neuroma must be excised at a supplementary operation. A method for preventing neurogliomatous proliferation in the nerve-stumps is needed.

35: 513-528 (April 23) 1927

Thirty-Two Cases of Bronchial Spirochetosis. J. Gaté and M. Billa.—p. 513.

35: 529-544 (April 27) 1927

*New Cause of Carbon Monoxide Poisoning. F. Heim de Balsac et al.—p. 529.
Curative Serotherapy in Tetanus. R. Archambaud and J. Friedmann.—p. 530.
Results of B. C. G. Vaccination Against Tuberculosis. G. Poix.—p. 531.

35: 545-560 (April 30) 1927

Whipple's Method in Treatment of Grave Anemias. W. Aitoff and G. Loewy.—p. 545.
Initial Symptoms in Parkinson's Disease. E. Juster.—p. 548.

New Cause of Occupational Carbon Monoxide Poisoning.—Heim de Balsac, Agasse-Lafont and Feil call attention to a form of chronic carbon monoxide poisoning from what is known as "poor gas." This gas is tending to replace illuminating gas in factories, also gasoline in automobile traction. It contains from 25 to 27 per cent of carbon monoxide. The lighting and heating power of the gas is below that of coal gas; but its cost is only one twelfth as much. The manufacturing of the gas is without danger. Poisoning is due to escape through crevices in the receptacle.

Progrès Médical, Paris

54: 234-264 (Feb. 12) 1927

Exotic Psychoneurosis. H. Codet.—p 241.
*Clinical Study of Substance A of Insulin. M Landsberg —p 242.
*Note on Substance A. C. Funk —p 245
Mental and Nervous Derangement Following Cerebral Thrombosis A. Forel —p 245.

Clinical Study of Substance A Isolated from Insulin.—Substance A, isolated by Funk from insulin, was used by Landsberg in diabetic and nondiabetic persons. A dose of 0.012 Gm. of the substance, corresponding to 20 units of insulin, was injected subcutaneously in the fasting patient In diabetic patients the blood sugar was reduced by from 0.041 to 0.109 Gm., an hour and a half after the injection. Some of these patients were given insulin, the reduction of the blood sugar was scarcely larger than that from substance A. Administered by the mouth, the latter proved to be without effect In nondiabetic persons, substance A did not decrease the blood sugar appreciably. Shock did not occur in two cases of considerable hypoglycemia caused by substance A. It is probable that the substance in insulin which induces shock is not the same as that which induces hypoglycemia.

Use of Substance A of Insulin in Diabetic Patients with Cardiac Lesions.—Funk states that isolated substance A may not be of much therapeutic importance in diabetes, until it becomes possible to isolate also the activating substance C Nevertheless, in diabetic patients with cardiac lesions, who do not tolerate insulin, substance A, which is chemically pure and is atoxic, can be advantageously employed.

Revue Française de Gynécologie et d'Obstét., Paris

22: 85-132 (Feb) 1927

*Magnesium Sulphate in Treatment of Eclampsia J. L Wodon —p 85.
Chronic Nephritis and Pregnancy. R. Beckers —p 92

Magnesium Sulphate in Treatment of Eclampsia.—Wodon asserts that magnesium sulphate may advantageously replace hypnotics in treatment of eclamptic convulsions A dose of 3.5 or 4 Gm. of magnesium sulphate, in a 10 to 50 per cent solution, is used for one intramuscular injection The injection may be repeated after an hour. The total number of injections is determined by the gravity of the case. The convulsions usually subside after the first injection Magnesium sulphate does not affect the contractility of the uterine muscle, the pulse or the blood pressure. It possesses a diuretic action. The favorable action on the comatose condition is explained by reduction of the cerebral edema present in eclampsia. The treatment is without effect on eclamptic convulsions with uremia. The action of magnesium sulphate is explained by an ion mechanism An ion of magnesium sulphate is capable of replacing an ion of calcium Administration of the former results in liberation of calcium in the blood, and consequently in subsidence of convulsions caused by hypocalcemia.

Anales de la Facultad de Medicina, Lima

9: 1 166, 1926. Partial Index

Wagner and Jauregg's Treatment of General Paralysis P P Figueroa. —p 1.
Roentgen Ray Diagnosis of Fracture of the Clavicle F Quesada —p 65
*Study of Bartonella Muris T. Battistini and P Weiss —p 71
*Vaccination Therapy in Carrion's Disease O Hercelles —p 94
Significance of Freud's Work H F. Delgado —p 105.

Bartonella Muris in Lima Rats.—Battistini and Weiss examined twelve rats for *Bartonella muris* In five animals it was found in the circulating blood and in smears of splenic pulp In the blood it was detected after a ten minutes' search The presence of this micro-organism in animals without any apparent sign of anemia and its location in the cells of the reticulo-endothelial system speaks for its parasitic nature. The blood syndrome accompanying bartonellemia in rats is similar to that observed in verruga peruana There are morphologic differences between *Bartonella muris* and *Bartonella bacilliformis*. The results of transference experiments were negative in monkeys, guinea-pigs, both normal and splenectomized, and white rats.

Vaccine Therapy in Severe Carrion's Disease.—From several severe cases of Carrion's disease, Hercelles secured blood cultures, which he used to prepare a vaccine This vaccine was tried in a number of cases, and the patients recovered without developing warts An inoculation of the cultures in a monkey caused chills and rise of temperature Intratesticular injection in a rabbit was not followed by significant change.

Anales del Hosp. de la Sta. Cruz y S. Pablo, Barcelona

1: 77 128 (March 15) 1927. Partial Index

*Strawberry Gallbladder E Ribas Ribas —p 77
Surgical Treatment of Fractures of Extremities L Bosch Aviles —p 81.

Study of the Strawberry Gallbladder.—Among 300 cases of gallstones in which he operated, Ribas found fourteen typical "strawberry" gallbladders In all the preoperative diagnosis had been cholecystitis with stones; but in only two were stones found and they were very small. Inflammatory processes, also, were present in only two cases All the patients were young women In seven cases histologic examination brought to light an accumulation of lipoid or cholesteroid in the epithelial cells It seems hard to explain the attacks of pain in such gallbladders with no gross lesions and trifling microscopic changes Perhaps the cause lies in the pressure exerted on the nerve by the accumulated cholesterol.

Archivos Lat.-Amer. de Pediatría, Buenos Aires

21: 85 163 (Feb) 1927

Ultraviolet Rays in Treatment of Tuberculosis F W Schlutz —p 85.
*Acute Otitis and Meningitis L Morquio —p 94
Multiple Subcutaneous Tumors in an Infant. F Pozzo and A E Bianchi —p 104
*Rupia and Late Congenital Syphilis J. C Navarro and E A Travella —p 113
Basal Metabolism in Obesity of Puberty M Steingart and F Bazan —p 124.
Mental Type of Chlorosis J Damianovich —p 132
Mongolian Idiocy and Purpura W Piaggio Garzon —p 143
Tuberculosis of the Glands and Lungs in an Infant C Pelfort —p 155
Vacciniform Hidroa R Capurro —p 159

Meningitis Following Scarlet Fever.—In a boy, aged 7, after a mild attack of scarlet fever, an ear complication developed and finally a streptococcic meningitis The patient recovered after treatment with streptococcus scarlet fever toxin

Rupia in a Case of Late Congenital Syphilis.—Navarro and Travella's patient was a girl, aged 10, who presented various stigmas Several extensive and rather deep ulcers had developed Since antisyphilitic treatment did not prove effective, surgery was cautiously used to remove the necrosed tissues The result was most satisfactory. The enlargement of the liver and spleen has not altered. The Wassermann reaction is still strongly positive

Archivos de Medicina Cirugía y Espec., Madrid

26: 493 520 (April 16) 1927

*Disease and Death of Don Carlos J Sanchis Banus —p 493.
Iodine in Hyperthyroidism E Carrasco Cadenas —p. 512

Disease and Death of Philip II's Son.—Historians have often discussed the circumstances surrounding the death of Don Carlos, heir to the Spanish crown. Sanchis Banús studied critically the fragmentary data available. According to him, Carlos was descended on both sides from a catatonic schizophrenic great grandmother, and had for a grandfather a pathetic idealistic schizoid, and for father a "cold despot" He suffered, in his turn, from paranoid schizophrenia His death came naturally from the same cause. This agrees with the clinical picture, there is little in favor of poisoning The first to suggest the latter hypothesis was Watson, the English ambassador at Madrid at the time. "History becomes at last a branch of biology"

Clínica y Laboratorio, Zaragoza

9: 253 340 (April) 1927

*Vaccine Against Rabies J. Ferran Clua —p 253
Cholecystography J M Soldevilla —p 270
Tuberculous Hemoptosis J. Gil Choliz —p 277.

Vaccine Against Rabies.—Ferrán describes fully his vaccine against rabies Over 35,000 persons bitten by dogs have already been vaccinated; the death rate varies between two and four per thousand, including all causes The method and four per thousand, including all causes. The method reduces the time necessary for vaccination to five days, and in an emergency to three. Treatment can be applied even at home by any physician who can handle a hypodermic syringe. It is available at 100 stations in Spain.

Revista Médica Latino-Americana, Buenos Aires

12: 773-947 (March) 1927

*Acute Manifestations of Leprosy. F. de P. Barrera and A. Peña Chavarria.—p. 773.
*Compulsory Vitaminization of Infant Foods. J. A. Collazo and A. E. Goslino.—pp. 806 and 811.
Recurrent Dislocation of the Patella. C. Lugones.—p. 815.
Tuberculosis of the Eyes. J. L. Pavía.—p. 830.
A Case of Hemolytic Anemia. L. de Marval and M. Benaros.—p. 869.
Brain Diseases. A. S. Marotta.—p. 875.

Acute Manifestations of Leprosy.—Among the 6,500 lepers *isolated in government leprosariums in Colombia*, Barrera and Peña have seen, as a regular phenomenon, the acute attacks on the chronic soil of leprosy which McDonald calls "leprous fever." These flare-ups may change the tubercular type into the maculo-anesthetic, or vice versa. On recovering, the patient may show remarkable improvement; however, if the attacks are very severe and close together, the resultant weakening may darken the prognosis. These acute attacks are a defense reaction. Between the inflammatory nodule and the chronic tubercle, there are anatomic differences. During the attacks, the *Bacillus leprae* exhibits signs of degeneration. From a preventive standpoint, it must be kept in mind that the patients disseminate bacilli in much greater quantities during such flare-ups. No treatment has proved very successful against this "fever." As soon as the attack subsides, the chaulmoogra oil treatment must be renewed.

Compulsory Vitaminization of Infant Food.—The lack of vitamin B in infant foods—milk, flour, juices—compels, Collazo and Goslino assert, the introduction of vitaminizing methods. They suggest the addition of autolized brewers' yeast. The methods used in concentration must be exclusively physical. The natural vitamin content is not enough. This procedure does not change any of the fundamental characters of the products. Its efficiency was proved on pigeons. As soon as the meaning of the word "vitamin" is established and methods for determining the presence of the vitamin are agreed upon, the sale of unvitaminized infant foods should be forbidden.

Revista Medico-Cirurgica do Brasil, Rio de Janeiro

35: 75-112 (March) 1927

*Tuberculin Treatment of Leprosy. S. de Novaes e Silva.—p. 83.

Tuberculin in the Treatment of Leprosy.—Novaes tried the effect of tuberculin in three lepers, one of each type. The skin and anesthestic cases reacted well, but the latter more slowly. The therapeutic result was almost nil in the nervous case. Tuberculin does not cause violent reactions if its use is carefully controlled. It stops the nasal discharge, thus decreasing the danger of contagion.

Archiv für Kinderheilkunde, Stuttgart

80: 241-320 (March 25) 1927

*Cylindruria from Acidified Milk. F. von Bernuth and J. Duken.—p. 241.
*Infantile Paralysis of Vegetative Nervous System. P. Selter.—p. 244.
Epidemic Parotitis. O. Wiese.—p. 253.
Langer's Tuberculosis Vaccine. K. Ossoinig.—p. 259.
*Avitaminosis, Blood Platelets and Erythrocytes. S. Sherif and H. Baum. —p. 269.
Scarlet Fever. H. Buschmann.—p. 280.
The Dick and Schick Tests. W. Schultz.—p. 287.

Cylindruria from Acidified Milk.—Bernuth and Duken, experimenting on cats, found that administration of milk mixed with hydrochloric acid caused only a moderate injury to the kidneys. In about 60 per cent of the infants fed with the mixture, granulated casts appear in the urine. Albumin is practically absent.

Infantile Paralysis of the Vegetative Nervous System.—Selter claims priority in the description of acrodynia, which he published in 1903 under the name "trophodermatoneurosis." He now believes that it is an infectious disease localized in the centers of the vegetative nervous system and suggests the name mentioned in the title.

Avitaminosis, Blood Platelets and Erythrocytes.—Sherif and Baum observed a pronounced thrombopenia on diets lacking in (antixerophthalmic) vitamin A. Absence of the antirachitic factor causes thrombopenia in all animals and in 50 per cent of children subjected to such diets. Lack of vitamin B or C did not influence the number of blood platelets.

Archiv für klinische Chirurgie, Berlin

144: 245-488 (March 3) 1927

Genesis of Postoperative Jejunal Ulcer. K. Blond.—p. 245.
Surgical Treatment of Gastroptosis. R. Göbell.—p. 266.
Retroperitoneal Hematoma Following Duodenal Resection. J. Koch.—p. 282.
The Pyelo-Ureterogram. L. Casper.—p. 288.
Treatment of Carcinoma of the Penis. K. Hutter.—p. 310.
Acute Necrosis of the Pancreas. P. Riess.—p. 325.
Pathogenesis and Treatment of Inguinal Hernia. A. J. Ssoson-Jaroschewitsch.—p. 352.
Bacteriology of the Gallbladder. J. Fuld.—p. 369.
Diverticula of the Bladder and Ureter. Rosenthal.—p. 404.
*Subungual Tumors. I. Carstensen.—p. 409.
Sedimentation Test in Surgical Tuberculosis in Childhood. F. Bier.—p. 432.
Cystic Adamantinoma. E. Risak.—p. 441.
Chondromatosis of the Hip Joint. F. Nilsson.—p. 458.
Formation of Collateral Circulation in the Intestine by Omentoplasty. F. Schulz.—p. 477.
Plastic Operation for Single Harelip. H. Ehrenfeld.—p. 486.

Subungual Tumors.—Carstensen reviews the literature on subungual tumors and reports one of Rodelius's cases. A woman, aged 27, had suffered for twelve years with pains in the tip of the right index finger. There was a small red point under the nail, which gradually became larger. For the last two years the slightest touch was enough to elicit extreme pain. On examination a bluish-red spot, the size of a lentil, was seen under the nail. When pressure was made on the free margin of the nail, the outline of blood vessels appeared over this spot. Subungual angioma was diagnosed. A roentgenogram, lateral exposure, showed an indentation in the bone of the terminal phalanx, corresponding to the bluish-red spot under the nail. The nail was removed. A round tumor, the size of a pea, was found and was enucleated without trouble. The periosteum of the bony cavity into which the tumor fitted was intact. Nine months later, the nail had regrown and was entirely normal. The histologic specimens are described in detail. The tumor cells were large, varied in shape and resembled epithelial cells. They were situated directly on the vascular endothelium. The growth resembled in structure three subungual tumors reported in the literature as angiosarcomas. These tumors the author regards as endothelioma or perithelioma. To the tumor in Rodelius's case she gives the designation endothelioma perivasculare. The diagnosis may be made from the localized pain alone, changes in the nail being absent. It is more difficult when, on the other hand, it must be made from the changes in the nail, without pain.

Deutsches Archiv für klinische Medizin, Leipzig

154: 257-380 (March) 1927

The Heart and Configuration of the Chest. R. Steinert.—p. 257.
*Blood Groups in Hypertension. E. Wiechmann and H. Paal.—p. 287.
*Permeability of the Peripheral Tissues for Dextrose in Epinephrine Diabetes. E. Wiechmann.—p. 296.
Secretion of Saliva. F. Delhougne.—p. 305.
Function of the Gallbladder. K. Hoesch.—p. 313.
*History of Iodine Treatment. W. H. Veil and R. Sturm.—p. 327.
Focal Reactions in Therapeutic Malaria. E. Wiechmann.—p. 358.
Insulin-Epinephrine Antagonism in Plethysmography. M. Heks and A. von Szakáll.—p. 365.
Pathogenesis of Cardiac Asthma. E. Wiechmann and J. Löer.—p. 372.

Blood Groups in Hypertension.—Wiechmann and Paal determined the blood groups in 500 patients with high blood pressure. They found a high percentage of groups B and AB. Hypertension occurs earlier in men than in women. Up to the age of 60 it is relatively more frequent in men, after that in women.

Permeability for Dextrose in Epinephrine Diabetes.—Wiechmann concludes from his simultaneous determinations of dextrose in the arterial and venous blood that epinephrine inhibits the intake of dextrose by the peripheral tissues.

Epinephrine diabetes in this respect resembles pancreatic diabetes.

History of Iodine Treatment.—Veil and Sturm publish a historical study of the use of iodine and of preparations that were employed long before the active principle was discovered.

Deutsche medizinische Wochenschrift, Berlin

53: 559-600 (April 1) 1927

Antineuralgic "Mixed Powders." S. Loewe.—p. 559.
Increased Frequency of Diabetes. H. Ullmann.—p. 561.
*Fatal Monocytic Tonsillitis. Haken.—p. 565.
Blood Grouping and Transfusion. J. Clemens.—p. 567.
Enzymes as Biologic Instruments. B. Flaschentrager.—p. 569. C'td.
Autopyotherapy. E. Makai.—p. 570.
Prevention of Blood Clotting and Electrocardiogram. J. Freud.—p. 573.
Meningitis. E. Siemerling.—p. 576.
Iron Therapy. Krichel.—p. 578.
Stereoroentgenography of the Abdomen. J. Tugendreich.—p. 580.
Echinococcus Tests. F. E. Loewy.—p. 581.
Diagnosis in Apparent Death. R. Jablonowski.—p. 582.

Fatal Monocytic Tonsillitis.—Haken reports death in three cases of monocytic tonsillitis in children. Fusiform bacilli and spirochetes were found in one, cocci in one other and diphtheria bacilli in the third.

53: 601-642 (April 8) 1927

Campaign Against Intoxicants. Raecke.—p. 601.
*Optimal Concentration in Chemotherapy. H. Kroó and Y. Mano.—p. 603.
Innervation of Muscle Fibers. O. Weiss.—p. 605.
After-Treatment in Surgery. M. Kappis.—p. 607.
Enzymes as Biological Instruments. B. Flaschenträger.—p. 611. C'cn.
Antimony in Treatment of Tabes. E. Kaufmann and H. Schaaf.—p. 612.
Extrapyramidal Diseases. E. Siemerling.—p. 614.
Malaria Treatment of Leukemia. G. Rosenow.—p. 617.
Fever at Onset of Malaria Tertiana. M. Mandelstamm.—p. 618.
Pharmacotherapy of Peptic Ulcer. F. Walinski.—p. 618.
Fibrous Tumors of the Fingers. Sonntag.—p. 619.
*Rectal Pressure as Sign of Detached Placenta. A. Calmann.—p. 620.
Treatment of Oxyuriasis. A. Dingmann.—p. 621.
Clamp for Diathermy Electrodes. M. Kaufmann.—p. 621.
Technical Novelties. M. Schütz.—p. 621. C'cn.
Progress in Roentgenology. A. Lorey and A. Wierig.—p. 623. C'cn.
Ordinance Regulating the Handling of Dangerous Drugs. Hirtsiefer.—p. 624.
"Words to Physicians and Medical Students." A. Borchard.—p. 627.

Optimal Concentration in Chemotherapy.—Kroó and Mano obtained much better results in treatment of recurrens spirochetosis of mice with diluted solutions of arsphenamine than with more concentrated solutions. The same amount of the drug administered in 1 cc. of water cured all the mice, while relapses occurred in 42.9 per cent of the animals in which 0.1 cc. of water was used. Similar results were obtained with a gold preparation, while potassium antimony tartrate acted more powerfully in concentrated solutions. They believe that the dilute solutions enhance the action in drugs which require an oxidation to become effective. The concentrated solution should be used in drugs which become less active when oxidized.

Sign of Detached Placenta.—A distressing feeling of pressure on the rectum when the placenta had entered the vagina was noted regularly by Calmann in his parturient patients.

Jahrbuch für Kinderheilkunde, Berlin

115: 253-314 (March) 1927

*Diet in Exsiccosis. E. Schiff and W. Bayer.—p. 253.
One-Sided Nutrition and Conditioned Reflexes. A. Iuschtschenko.—p. 261.
*Blood Sugar Regulation in Rickets. J. König and G. Lenart.—p. 271.
Blood Serum in Tetany. J. Csapó and J. Istváncsics.—p. 282.
Proteins and Toxicosis of Infants. E. Kramár.—p. 289.
Treatment of Bronchopneumonia of Infants. H. Temming.—p. 298.
"Eggs in the Diet in Spasmophilia." W. Wernstedt.—p. 307.

Diet in Exsiccosis.—Schiff and Bayer found that symptoms of toxicosis can be produced experimentally by administration of proteins only in acute depletion of the water reserves of the organism. They treat toxicosis by administration of Ringer's solution or whey containing 15 per cent of milk sugar. Cane sugar is probably just as good. Sometimes it is necessary to add an intravenous injection of 150 to 200 cc. of Ringer's solution containing 5 per cent of dextrose.

Blood Sugar Regulation in Rickets.—König and Lenart found a steeper alimentary glycemia curve in children with rickets than in controls. The hyperglycemia also lasted longer than in the normal children.

Medizinische Klinik, Berlin

23: 425-462 (March 25) 1927

Diagnosis of Influenza at Necropsy. R. Jaffé.—p. 425.
*Changes in Incidence and Character of Internal Diseases. Magnus-Levy.—p. 426.
Increased Frequency of Pernicious Anemia. V. Schilling.—p. 427. C'td.
Repeated Occurrence of Cancer. J. Gigl.—p. 432.
Pathogenesis of Gastric Ulcer. G. Steiner.—p. 434.
Cessation of Breathing in Tabes. C. Krüskemper.—p. 436.
Balneotherapy of Hypertension. E. Pflanz.—p. 437.
Rare Obstetric Case. W. Smital.—p. 439.
Mosquitoes and Malaria. E. Martini.—p. 439.
Treatment of Influenza. M. Besarović.—p. 442.
Instrument for Opening Gynecologic Abscesses. Dyroff.—p. 443.
Hydronephrosis Not Due to Injury. Von Schnizer.—p. 443.
Chemistry of Vitamins. E. Remy.—p. 444.

Changes in Incidence and Character of Internal Diseases.—Magnus-Levy suggested the German questionnaire on the frequency of pernicious anemia. He mentions various clinical conditions which have changed in his lifetime, either in appearance or in frequency. Cirrhosis of the liver, jaundice, gout, diabetes, dilatation of the stomach, aneurysms and general paralysis have changed. Delirium tremens has become rare, as well as the typical turbulent anesthesia of drunkards. Chlorosis is vanishing, while pernicious anemia seems to be increasing in frequency.

Monatsschrift für Kinderheilkunde, Leipzig

35: *193-288* (March) *1927*

Infectious Enteritis in Infancy. O. Herz.—p. 193.
Anemias of Children at the Present Time. W. Stefko.—p. 206.
Bacteriophage Treatment in Pediatrics. W. Pockels.—p. 229.
Attacks of Cyanosis in Congenital Heart Lesions. W. Gravinghoff.—p. 237.
Vitamin Reserves in the Human Organism. G. Petényi.—p. 252.

Münchener medizinische Wochenschrift, Munich

74: 483-530 (March 25) 1927

*Alleged Malaria Remedies. O. Fischer.—p. 483.
*Grave Toxicosis of Pregnancy. H. Küstner.—p. 488.
Nonspecific Treatment. W. Weichardt.—p. 490.
Epidemiology of Typhoid. W. Rimpau.—p. 491.
*Optic Neuritis in Scarlet Fever. Haken.—p. 495.
Insurance Against Occupational Diseases. Koelsch.—p. 496.
*Dosage of Quartz Lamp Treatment of Erysipelas. J. Becker.—p. 497.
Combinations of Acetyl-Salicylic Acid with Calcium and Caffeine. C. Bachem.—p. 498.
Enhancing the Effect of Quinine by Calcium. Russmann et al.—p. 499.
Dislocation of the Wrist. F. Krapp—p. 500.
The Irradiation Treatment Room. Hörnicke.—p. 500.
Experiments on Paratyphoid. W. Seiffert.—p. 501. C'cn.
Expert Testimony on War Invalidism. C. Zahn.—p. 504.
A Law to Combat Venereal Diseases. L. von Zumbusch.—p. 506.

Alleged Malaria Remedies.—Fischer tested a number of preparations recommended for malaria. Some were without any influence whatever, and none of them were as effective as quinine.

Grave Toxicosis of Pregnancy.—Küstner's three patients were in the fifth or sixth month of pregnancy. All had increased blood pressure. Two had fever and were in an extremely bad general condition. Abscesses of the liver seemed probable in one, paranephritis in the others. All three recovered within fourteen days after artificial abortion.

Optic Neuritis in Scarlet Fever.—Haken reports three cases of neuritis of the optic nerve in grave scarlet fever (two cases *complicated by otitis*) without nephritis. All three patients regained their sight in from two to three weeks.

Dosage of Quartz Lamp Treatment of Erysipelas.—Becker recommends 1.5 erythema doses of ultraviolet rays in treatment of erysipelas. The irradiated area should extend about 4 cm. *beyond the erysipelatous area in all directions.*

Wiener klinische Wochenschrift, Vienna

40: 445-480 (April 7) 1927

The Skin as Organ of Defense. E. Finger.—p. 445. Ct'd.
Interaction of Smallpox and Hydrophobia. B. Busson.—p. 449.
*Lumbar Puncture in Outpatients. B. Dattner.—p. 450.
Acute Myelitis. A. Lang.—p. 453.
Chronic Suppurations of the Lung. E. Kirsch-Hoffer.—p. 454.

Syphilitic Condyloma in Acoustic Meatus G Doczy —p 456
*Innervation of the Stomach in Parkinsonism. L Hess and J Faltitschek. —p. 457. C'cn.
Electrocoagulation in Hypertrichosis E Eitner.—p 460
Lister's Centenary A. Eiselsberg.—p 461
Colloid Chemistry and Medicine W. Pauli —p. 465
Abscesses and Empyemas Complicating Pneumonia J Donath —p 466.
Dangers of Metasyphilis O Marburg Supplement —pp 1 12

Lumbar Puncture in Outpatients.—Dattner recommends Antoni's technic (thin needle introduced in a thicker guide needle) for general use Considerable disturbances were observed at Wagner-Jauregg's clinic in only 4 per cent of the patients It was the same whether the puncture was made on outpatients or on patients in the hospital.

Innervation of the Stomach in Parkinsonism.—Hess and Faltitschek publish evidence for their opinion that parkinsonism affects not only the voluntary motor system, but also the vegetative nervous system

Zeitschrift für Kinderheilkunde, Berlin

43: 193 324 (March 25) 1927

*Glycolysis and Rickets J Brock and A Welcker —p 193.
*A New Sign in Premature Infants L O Finkelstein and R A Wilfand —p 201
Psychogenesis of Enuresis C Boenheim —p 211
Exertion Hyperthermia in Infants H Rietschel et al —p 221
Dynamometry and Spirometry in Children. E Schlesinger —p 232
Cardiac Murmurs in Children L Doxiades —p 245
*Milk from Reindeer A Ylppo —p 255
Criticism of Dick's Scarlet Fever Theory S Meyer —p 258
Duodenal Ulcer and Disturbed Development of the Pancreas H Wurm —p 286
Hemoglobin Resistance N. Wundt —p 297
Carbohydrate Metabolism in Cirrhosis of the Liver in Children J. Warkany —p 305
Adiposogenital Dystrophy. A. Krowitzky —p 315
Central Nervous System and Vaccination M Gioseffi —p 321
Color Perception of the Infant B de Rudder —p 323

Glycolysis and Rickets.—Brock and Welcker found in rachitic rats the same absence of glycolysis in the blood that Freudenberg and Welcker observed in rachitic children The blood phosphates were low The formation of lactic acid in the liver was reduced about one half. The striated muscles from these rats had a normal content of phosphates and of hexose-phosphoric acid

A New Sign in Premature Infants.—Finkelstein and Wilfand observed a peculiar phenomenon in prematurely born infants. When the infant lies on its side, the lower half of the body becomes bluish red, and the upper half pale The dividing line is sharply defined and localized exactly in the middle line of the body (including the head). They believe that the phenomenon can be explained only by assuming two vasomotor centers and underdevelopment of commissural paths between them The symptom disappears when the infant reaches the age of two to three months.

Reindeer Milk.—Ylppo found that this milk contains about six times more fat and salts than does human milk He found 18 7 per cent of fat, 11 1 per cent of proteins and 1 2 per cent of ash in it Consequently, children fed on it suffer from thirst and do not thrive.

Zeitschrift für Kreislaufforschung, Dresden

19: 169 200 (March) 1927

Anatomic Basis of Angina Pectoris. E Pauli —p 169

19: 201 232 (March) 1927

Blood Pressure and Climate. Siebelt —p 201.

Zeitschrift für klinische Medizin, Berlin

105: 301 537 (March 30) 1927

Atypical Hemolytic Anemias K Paschkis —p 301.
*Hemoglobin Resistance in Anemias T Worpel —p 318
*Metabolism After Blood Transfusions in Anemia Weicksel —p 332.
Residual Nitrogen in Liver Insufficiency J S Chasatzky —p 349
Interferometric Reading of Abderhalden's Reaction G Kuhn —p 365.
*Epinephrine and Acetone S Hirschhorn and L Pollak —p 371
Action of the Thyroid on the Blood F. Rothschild and M Jacobsohn. —p 403
*Action of Ergotamine on the Blood. F. Rothschild and M. Jacobsohn.—p 406
Action of Epinephrine on the Blood M Jacobsohn and F. Rothschild. —p 410
Action of Atropine on the Blood. M. Jacobsohn and F. Rothschild —p 414
*Action of Choline on the Blood. M Jacobsohn and F. Rothschild —p 417.
*Chronic Diffuse Interstitial Nephritis. K. Löwenthal —p. 420.
Diseases of the Biliary and Urinary Passages W. Brednow —p 426.
Endovasculitis and Chronic Septic Endocarditis. D. O. Krylow.—p 440.
So Called Renal Diabetes S Tannhauser.—p 448
Carbon Dioxide Dyspnea in Cardiac Disease. P. Uhlenbruck —p 464
A New Test Meal N J. Leporsky —p 470
Disturbances of the Tonus of the Heart. R. Ohm —p. 493

Hemoglobin Resistance in Anemias.—Worpel found an increased resistance of hemoglobin to sodium hydroxide in all of his forty patients with pernicious anemia. The resistance was temporarily low in only one of them. Hemoglobin from patients with secondary anemia was normal except where there had been grave acute hemorrhages; here the resistance was increased for some time. It seems that immature hemoglobin is more resistant. He used Bischoff's method: addition of 1 cc. of fourth normal sodium hydroxide to 5 cc of a 1 per cent (by Sahli's hemometer) solution of hemoglobin and observation of the time when the oxyhemoglobin spectrum disappears. This time is about 60 5 seconds in healthy adults—a little less in women—and increases in pernicious anemia—to from 68 to 230. There is a parallelism between the gravity of the condition and the time of destruction of hemoglobin.

Metabolism After Blood Transfusions in Anemia.—Weicksel always found a negative nitrogen balance during the exacerbation of pernicious anemia.

Epinephrine and Acetone.—Hirschhorn and Pollak found an increase in acetonuria after an injection of epinephrine, in cases of spontaneous acetonuria (pregnancy, infectious diseases, asthma) or in acetonuria induced by a diet free from carbohydrates. This action may be prevented by administration of carbohydrates. The epinephrine acidosis is marked in some cases of diabetes, slight in others.

The Thyroid, the Vegetative System and the Blood.—Rothschild and Jacobsohn administered thyroid substance and observed a sympathetic effect: increase in blood cholesterol and calcium and lowering of the total phosphorus, potassium and residual nitrogen Ergotamine has the opposite (vagal) effect in patients with exophthalmic goiter, but its action in animals is chiefly sympathetic. Choline lowers the blood sugar and the cholesterol.

Chronic Diffuse Interstitial Nephritis.—Lowenthal reports a unique case of a pure interstitial nephritis without apparent injury to the glomeruli and with only a compression of the tubules. The patient was an insufficiently treated syphilitic and died of cachexia Gastric symptoms (achylia and vomiting) were the most prominent clinical feature. The changes in the kidneys were unexpected.

Zentralblatt für Chirurgie, Leipzig

54: 385 448 (Feb 12) 1927

*A Gynecologic Sign of Appendicitis H Sellheim —p. 386
Operative Technic and Art. K. Mermingas —p 390.
*A New Indication for Phrenicotomy E Haim —p. 391.
Two Rare Vessel Injuries. O Orth —p 392.
Extensive Thoracic Injury Without Opening the Pleura. Schröder —p 394
Ligation of the Inferior Thyroid Artery at Its Emergence from the Thyrocervical Trunk O Winterstein —p 396
"Artificial Lighting of Operating Rooms" L. Drüner —p 398
"The Simplest Method of Closing Salivary Fistulas" J. Zipper —p 400.

A Gynecologic Sign of Appendicitis.—Thickening, shortening and painfulness of the sacro-uterine ligaments, when it is present only, or mainly, on the right side, is a reliable sign of appendicitis, Sellheim states, if gonorrhea and puerperal infection can be ruled out.

Phrenicotomy in Traumatic Perforation of the Lung.—Haim performed phrenicotomy, as a preliminary operation to thoracotomy, rib resection and lung suture, in a case of stab injury to the lung. He believes that it furthered healing by putting the lung at rest and by raising the diaphragm and thereby rapidly emptying the pleural cavity of blood.

54: 449 512 (Feb. 19) 1927

"Palliative" Resection for Gastric Ulcer M Madlener —p 450
Fixation of the Scalp for Brain or Ventricle Puncture K. Eskuchen —p. 454.

Treatment of Injuries from the Economic Standpoint F. Steinmann.—p. 457.
*Peritoneal Suture After Appendectomy R Frank—p 460
Metal Plate and Wire Sutures in Closure of Abdomen S Hoyer—p 461.
*Convenient Approach to the Prostate E Haim—p 463
*A Danger in Kocher's Operation for Hernia. M. Lipscher.—p. 467.

Suture of the Peritoneum After Appendectomy.—Frank applies a soft intestinal clamp to a fold of cecum containing the stump. The resistance to the needle thus obtained greatly facilitates suturing.

Extramuscular Perineal Prostatectomy.—Haim finds that, contrary to general opinion, the external anal sphincter can easily be isolated from the rectum. Passing between the sphincter and the rectum and avoiding the muscular network where the fibers of the sphincter, the bulbo cavernosus and the superficial and deep transversis perinei meet, one arrives in the space between the rectum on one side and the urethra, prostate, bladder and seminal vesicles on the other. The space contains only the soft connective tissue of the rectovesical septum. With spatulas the sphincter is drawn forward and upward, the rectum forward and downward. The bladder, or at least the urethra, must be pressed outward with a metal catheter. Advantages of the method are, according to Haim, absence of shock, of the necessity for complicated dressings and of a visible scar; the operation can readily be done under local anesthesia and does not need to be broken off, if injury to the urethra or bladder should occur.

A Danger in Kocher's Operation for Hernia.—In operating on a small, right inguinal hernia in a boy, aged 10, Lipscher included a portion of intestinal wall in the clamp with the sac and sutured it to the lateral abdominal wall in the region of the internal inguinal ring. The error was discovered at a second operation four days later. The abdominal cavity contained 200 cc. of thick pus. The child recovered.

51: 513-576 (Feb. 26) 1927

*Danger of Explosion with Oxygen Mixtures. G. Lotheissen.—p 514.
*"Philology in Surgery." F. Harth—p. 518
The Osteostat L A Rosen.—p 520
Operation for Incarcerated Duodenojejunal Hernia with Extensive Resection of the Small Intestine M N. Kuschewa and N. N Malinowsky.—p. 525.
*Crossed Renal Colic and Functional Disturbance N Kleiber—p 528.

Explosions of Anesthetic Gases.—In opening a suppurative process in the lungs otherwise than with the knife, Lotheissen uses local anesthesia exclusively, because of the danger of explosion with ether or ether and oxygen and the risk of heart failure with chloroform.

Philology in Surgery.—Harth of Athens takes exception to certain philologic strictures made by Reinberg in a recent number of the same journal. The *th* in *epithelium* is correct, for the word is not derived from ἐπιτέλλω, but from ἐπί and θηλή (*on* and *nipple*) and was first used by the Dutch anatomist Ruysch for the fine epidermis covering the nipple and tactile papillae of the margin of the lip. *Arrhythmia* is correctly written with two *r*'s because of the rule of grammar which doubles ρ after a short vowel (α privative) in compounds. Catarrh is another example. Reinberg thinks that *trocar* has been derived from *trois-quart* by popular etymology, whereas, Harth maintains, *trois-quarts* is the original and technically correct term, which he explains by the three right-angled triangles which together form the point.

Crossed Colic and Crossed Functional Disturbance in Nephrolithiasis.—In the case here described, the right kidney contained a calculus filling the entire pelvis, but there were no symptoms on the part of this kidney and it continued to function, whereas there had been attacks of colic in the left kidney and indigo carmin tests had shown a temporary complete cessation of function in it.

Zentralblatt für Gynäkologie, Leipzig

51: 385-448 (Feb 12) 1927

Fingerprints in Determining Paternity. L Nürnberger—p 385
Sedimentation Speed in the Prognosis of Carcinoma of the Uterus P Caffier—p 390
Acetarsone in *Treatment of Syphilis in the New Born* E Klaften—p. 400.
*Results of Radium Treatment of Carcinoma of the Female Genital Organs. I Ikeda—p. 407.
Method of Subtotal Hysterectomy J S Passeron—p 412
*Schilling's Hemogram During Labor and the Puerperium E Haeusermann—p 414
Forceps in the Mento-Posterior Brow Presentation F Geppert—p 429.
Pyocolpos from Atresia of the Hymen P vom Dahl—p 433
Vaccination Against Puerperal Infection E J Jankelewitsch—p 436.

Results of Radium Treatment of Carcinoma of the Uterus.—Ikeda's statistics, which are from Japan, cover a period of twelve years. Of 432 patients treated with radium for carcinoma of the cervix, 198 are now alive. One hundred and sixteen of these have lived longer than five years, seventeen longer than ten years after the treatment. In nine of those living the tumor has recurred. He finds that most local recurrences and metatases occur during the second year. There were two cases of acute septic peritonitis caused by the irradiation. Two pregnancies (two and three months, respectively) were terminated by spontaneous abortion during the irradiation. Five women who were in the latter half of pregnancy at the time of the irradiation carried their children to term and were delivered normally. These children have all thriven and show no abnormalities. Three of these *five women again became pregnant, but they died during* childbirth. The children lived. The cause of death was given as hemorrhage; it is probable that scar formation in the birth passage caused difficult parturition.

Influence of Prophylactic Vaccination on the Course of the Puerperium.—Three hundred women were vaccinated against puerperal infection, 100 were given an intramuscular injection of 100 millions of streptococci and 400 millions of staphylococci twenty days before term and a second injection ten days before term. One hundred received a single intramuscular injection of 25 millions of streptococci and 200 millions of staphylococci on admission to the clinic, i. e., during labor. In this group the results were not fully satisfactory, and the next hundred women were given further injections, one of 50 millions of streptococci and 200 millions of staphylococci forty-eight hours after the first (whether or not the birth had taken place) and one of 100 millions of streptococci and 400 millions of staphylococci after a further forty-eight hours. The results in the first and third groups were approximately the same: the puerperium was normal in 94.6 per cent, febrile in 1.8 per cent, subfebrile in 0 per cent, in 3.6 per cent the temperature rose once to 38.5 C. Three hundred unvaccinated women were used as controls. For these the corresponding figures were 70.3, 21.9, 5, and 2.8. The high percentage of infections is explained by the bad economic condition. A general reaction, usually severe, was noted in 59.5 per cent of the women vaccinated in the course of the pregnancy, a local reaction in all. The preparation of the vaccine is described. It should not be more than two months old.

Zentralblatt für innere Medizin, Leipzig

48: 289-312 (March 12) 1927

Survey of Pharmacology. C Bachem—p 289 C'td

48: 313-344 (March 19) 1927

Survey of Pharmacology C. Bachem—p 313 C'cn

48: *361-384 (April 2) 1927*

*Typhoid Carriers P. Krause.—p 362

Typhoid Carriers.—Krause finds that the danger from these subjects cannot be overestimated, although care on the part of the carrier may restrict dissemination of the infection. Cholecystectomy and appendectomy should be taken into consideration.

Klinicheskaya Meditsina, Moscow

5: 1-72 (Jan.) 1927. Partial Index

Function Tests in Renal Diseases S S Zimnitskiy.—p 2
*Mechanism of Inorganic Cardiac Murmurs. A A Treguboff—p 18.
The Cerebrospinal Fluid in General Paralysis and Other Mental Diseases A L Barsuk—p 48

Mechanism of Inorganic Cardiac Murmurs.—Treguboff found inorganic systolic murmurs most frequently in neurasthenic persons. The murmurs were associated with other signs of cardiac neurosis, as palpitations, pain in the cardiac region and dyspnea. Savitskiy's experiments on isolated animal hearts indicated that hyperexcitability of vagal fibers, innervating the papillary muscles, is responsible for the inorganic murmurs. The theory was verified on epinephrine and atropine tests, in patients with cardiac neurosis. Under the influence of epinephrine, the intensity of the systolic murmurs increased; under the influence of atropine, the murmurs disappeared. There was evidence that the results were independent of the blood pressure. Hypertension of the chordae tendineae, due to spastic contraction of the papillary muscles, causes insufficiency of the valves. Consequently murmur occurs. Atropine appeared to be without influence on organic systolic murmurs. In dubious cases, the atropine test may aid in the differentiation of organic from inorganic murmurs.

Russkaya Klinika, Moscow

7: 3-156 (Jan.) 1927. Partial Index

*Secretion in Intestinal Transplants. A. Vakar.—p. 19.
*Agglutination Reaction for Determination of Blood Groups. G. Alieff.—p. 55.
Compression of Spinal Cord in Tuberculous Spondylitis. M. M. Ammosoff.—p. 88.

Secretory Functioning in Isolated Segment of Ileum Used for Baldwin's Operation.—Clinical observations on the secretory functioning of the intestine were made by Vakar on a segment of the ileum used for the construction of an artificial vagina. Mechanical irritation, as from a drainage tube, or chemical irritation from irrigations stimulated the secretion of intestinal juice. The secretion was reduced by administration of belladonna; it increased greatly after ingestion of food. There was a connection between the amount of the secretion and the kind of food taken. The intestinal juice can be easily preserved at room temperature, even in an open tube. It appears that isolated segments of intestine can serve for researches on the physiology and pathology of intestinal secretion in man.

Agglutination Reaction in Determination of Blood Groups.—Alieff's method of determining the group to which a certain blood spot belongs is as follows: About 1 cc. of plasma or of serum of the first group is mixed with from 0.1 to 1 Gm. of the dry blood to be examined. The mixture is kept in the thermostat at 37 C. for from two to five minutes. If the mixture agglutinates washed or fresh erythrocytes belonging to the second group, but does not agglutinate those belonging to the third group, the blood tested is of the third group. If the mixture agglutinates erythrocytes of the third group, but does not agglutinate those of the second group, the blood in question is of the second group; if the mixture does not agglutinate erythrocytes of either the second or third groups, it means that the blood belongs to the fourth group; agglutination of the erythrocytes of both the second and third groups points to the first group. Evidently agglutinogens are not destroyed in desiccated blood. The ability to absorb agglutinins is preserved in them at least for eight weeks. The author lays stress on the value of this method in forensic medicine.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

70: 1298-1412 (March 12) 1927

Character Changes After Influenza. G. C. Bolten.—p. 1298.
Histologic Forms of the Tubercles in the Lung in Miliary Tuberculosis. H. T. Deelman.—p. 1305.
*Tar Carcinomas in Rabbits. C. Bonne.—p. 1318.
Leprosy, Probably Acquired in the Netherlands. J. J. C. Schreuder.—p. 1321.
*An Unusual Birth Obstruction. C. A. Verbeek.—p. 1323.
Etiology of Erythema Nodosum. J. C. Berntrop, Jr.—p. 1325.

Tar Carcinomas in Rabbits.—Two rabbits were each given thirteen treatments with tar on the skin of the back. In one a skin carcinoma developed, which metastasized in the lymph glands of the same side. In the other there developed an ulcerating papilloma, which was excised and on microscopic examination presented evidences of early carcinomatous degeneration. Three months later nothing abnormal was to be found in the animal. A rabbit was then treated with tar in and around the mouth, with the object of studying the effects of tar on the intestinal canal. Forty treatments were given, two a week from December to May. In June a number of papillomas and an ulcer developed in the skin of the sacral region. Biopsy showed the ulcer to be a beginning carcinoma. Seven weeks later there were metastases in the groin. In the same animal pieces of the tumor were inserted under the skin in the neck, in the inner side of one ear and in the outer side of the other ear. Pieces of one of these grafts were inserted under the skin on the inner surface of both ears in eight rabbits that had never been tarred. In one of these animals a tumor, histologically carcinoma, developed in each ear on the site of the graft—further attempts at grafting were unsuccessful. The tarred rabbit died about five months after the appearance of the first lesions. The gross and microscopic appearance of the lesions in this animal is described in detail.

Hemorrhagic Swelling of the Fetus as Birth Obstruction.—A primipara, seven months pregnant, showed signs of hydramnion. Labor set in and proceeded very slowly. Forcible extraction of the head was successful after a number of attempts, but further efforts were fruitless. The obstruction proved to be a swelling of the skin over the left half of the back, thorax and abdomen and on the left arm. The skin over these regions was so softened that the examining finger was able to pierce it, whereupon a large quantity of bloody fluid escaped, and it became possible to extract the fetus.

Acta Medica Scandinavica, Stockholm

66: 1-196 (March 22) 1927

"Sanocrysin" Treatment. N. Oekonomopoulo.—p. 1.
*Hemoglobinuria from Cold. G. Höglund.—p. 33.
Pathogenesis of Exudative Pleurisy. M. Arborelius and Y. Åkerrén.—p. 61.
*Sprue in Denmark. J. E. Holst.—p. 74.
*Diabetes Mellitus and Hypoglycemia. G. Rosendahl.—p. 100.
*Erythrocytes in Pernicious Anemia. S. Jørgensen and E. J. Warburg.—p. 109. In English.
Nomogram for Hematologic Use. E. J. Warburg.—p. 187. In English.
Extrasystolic Bigeminy. E. Zander.—p. 189.

Hemoglobinuria from Cold.—Höglund reports two cases of paroxysmal hemoglobinuria. Absorption of the cold hemolysins increased the subsequent titer of the serum in the Wassermann reaction. The cold hemolysins may be present even if the Wassermann reaction becomes negative.

Sprue in Denmark.—Holst observed a case in a woman who had never left Denmark. The patient's muscles were atrophic and she also had spastic paraplegia and spontaneous fractures of the ribs. The latter, together with the tetany, are attributed to loss of calcium through the feces in the form of calcium soaps. The blood sugar did not increase after administration of 50 Gm. of dextrose. There was some azotorrhea, but this does not exclude the diagnosis of sprue. The stomach secretion was acid, but megalocytes were increased in the blood.

Diabetes Mellitus and Hypoglycemia.—Rosendahl's patient developed hypoglycemia after being treated for a few days with Petrén's diet and small doses of insulin. The insulin was discontinued and injections of dextrose used. In spite of this, the attacks of hypoglycemia returned and the patient died. An alkalosis together with acetonuria was observed during the attacks. There was also an excess of chlorides and nitrogen (especially ammonia) in the urine. The author attributes the hypoglycemia to insufficiency of the liver.

Erythrocytes in Pernicious Anemia.—In wet preparations Jørgensen and Warburg found the mean diameter of erythrocytes from healthy subjects to be 7.7 microns. A diameter of 8.6 microns or more in more than 15 per cent of the erythrocytes is extremely suggestive of pernicious anemia. Microcytes are as a rule thicker, macrocytes thinner than normal erythrocytes. Jaundice may cause macrocytosis, although the latter is not proportional to the bilirubinemia. Microcytosis is frequent in hyperthyroidism. The percentage of macrocytes is increased not only in pernicious anemia (and sprue) but also in Jaksch's anemia, tumors of the bone marrow, some cases of leukemia, severe malaria and after various hemolytic poisons (nitrobenzene, benzine and pyrogallol), in poisoning by lead or radio-active substances, in hypothyroidism and in a few patients with cancer of the stomach.

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 89, No. 3 CHICAGO, ILLINOIS JULY 16, 1927

THE TREND OF SURGERY *

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SEATTLE

Progress is the watchword of science. It would be stimulating to sketch the splendid developments in surgery during the past generations, the observations that transformed the science of surgery from a series of barbarous and hazardous experiments on suffering humanity to a comparatively safe and reliable method of overcoming disease and restoring health; but I shall confine what I have to say to a few observations based largely on my own experience. One cannot look back without a sense of pride and satisfaction to what has been accomplished during the past quarter of a century.

Speculation as to the future and occasionally the outlining of changes for the betterment of conditions as a whole are especially needed in the field of surgery where, many times, an operation is the ultimate effort on the part of the patient and surgeon to remedy a condition that has baffled other branches of medicine. Since it is impossible now for any individual to master all the branches of medicine, it has been necessary to receive guidance and advice from the pathologist, the biochemist, the neurologist, the endocrinologist, the internist and others. From the reports and advice of these groups of men, the surgeon must formulate his plans and finally carry them into completion in each case.

COMMON SURGICAL SENSE

From the well equipped roentgen-ray, clinical and pathologic laboratories which are at the disposal of the practitioner come many reports whose interpretation may indicate a probable diagnosis. This wealth of information may occasionally be confusing. The surgeon of the future should not lose, with all these advantages, the use of his own special senses. The seeing of an hysterical patient, the feeling of the hot, trembling hand of an exophthalmic goiter patient, the noting of the sound of the peristaltic wave of the small intestine, or the odor of the typhoid and the diphtheritic patient, the recognition by taste of certain narcotics are diagnostically characteristic. It is to be hoped that the surgeon of the future will not lose the power to gain information by the use of his own senses. Let him keep his own special primitive detective forces at work no matter how many other gatherers of scientific data he may have at work for him.

TRAINING THE YOUNGER MAN

Up to ten years ago a majority of the younger men received the major part of their surgical experience at the expense of the patient. Positions as assistants to men of recognized ability were scarce as compared with the number of applicants. This condition of affairs has changed, and in many places a young man receives enough to live on during his training. If progress in surgery and surgical diagnosis is to continue, it must become the duty of every active surgeon to train regularly a few men and to see that, during this period of training, the younger man is cared for financially. When a poorly trained man appears in our midst it is probable that he is less to blame than the older and better trained surgeons who should have seen that he was properly trained before allowing him to set out for himself. It is sad to read at times that one of the great leaders of surgery has passed on, and shocking to realize that this man, who meant so much to his immediate community and the state at large, has left no one to carry on his work.

THE GENERAL PRACTITIONER AND SOME EMERGENCY CASES

There are emergency conditions, such as appendicitis, strangulated hernia and ruptured peptic ulcer, in which the element of time is of utmost importance. In some sections of the country where distances are great, a number of unfortunate persons pay the extreme penalty each year because of their remoteness from competent surgical help. Consequently, the education and training of the general practitioner whose duty it is to look after these isolated communities should be such as to prepare him to handle such emergency cases alone if necessary. Intensive study should be given by him to the conditions which he is most likely to be called on to combat. Occasionally a physician witnesses a long and complicated operation which is a complete waste of his time and patience, as he never expects to perform such an operation. He would be much more benefited by a short and intensive course in the most common ways to handle emergency cases with what facilities he has at his command. A kitchen table or a small obstetric hospital may be his operating theater. Such qualifications of the general practitioner, plus an understanding of his limitations, would save many from death each year and would eliminate much pain and suffering and save many weeks of hospitalization for patients.

Many practitioners are so situated that they have to brave severe weather conditions and bad roads in attending to the details of a general practice. In spite of the constant grind they have equipped themselves to perform emergency operations when absolutely necessary. The number of men so qualified is constantly increasing, and they certainly deserve all the credit that has ever been given to any medical man for services rendered.

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* Chairman's address, read before the Section on Surgery, General and Abdominal, at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

SURGICAL FADS

Fads in surgery must be shunned like the streptococcus. Every new idea is worth consideration as important, but it should be taken up with care and caution. Most can await adoption until they have been tested by men of recognized ability. Surgeons should not rush to adopt everything new because of its newness but should await such conservative tests as are applied in internal medicine when a new drug is offered for investigation. Some authoritative surgical body should be requested each year to discuss the merits and demerits of new and old surgical technics which are offered the profession. By this, I do not mean to suggest that a surgical council should be established, as that does not seem necessary at present. But such information coming from a body of men well recognized as surgical leaders would help to standardize the work and to clarify the ideas of men unable to take the time needed to investigate and cull the wheat of fact from the chaff of fiction which appears in the medical literature.

RECOGNIZING LIMITATIONS

That there exist varying degrees of qualifications and limitations in surgical practice will probably be one of the hardest facts that we shall have to recognize in the future. No surgeon does all operations equally well, and while he may do some operations with a brilliance that will far outshine the work of the average man, he may do others with mediocre ability. It is hard to recognize our own limitations or to judge the limitations of others. The more uncompromisingly we criticize ourselves, the nearer we can approach the desired goal of 100 per cent efficiency. The general practitioner in the future should recognize that some men in certain surgical procedures are eminently qualified, while in other procedures they simply are not competent.

SURGICAL JUDGMENT

Surgical judgment is difficult to achieve, but as time goes on this will be improved. Three factors enter in: (1) the better knowledge of the surgeon of today of the chemistry, physiology and pathology of the tissues that are being operated on; (2) a well recognized standard of procedure for a certain class of work, and (3) the qualification and experience of the operator himself. That the surgeon of the future may measure up in self reliance, responsibility and judgment with the surgeon of the past, he must be better trained and thoroughly imbued with the investigative spirit. Patients present a problem to be dealt with from a scientific and a common sense standpoint. When controversies arise in regard to surgical problems, as those now with regard to the surgery of the stomach and duodenum, or peptic ulcer, the surgeon of the future will reserve his opinion until enough time has elapsed and enough cases have been studied to justify him in adopting one method. But until a preponderance of evidence of one side or the other has been definitely placed, the surgeon of the future must follow the method which seems simplest to him and with which he is most familiar. If he will recognize his limitations and do only that which he is best qualified to do, his postoperative results will be better and his percentage of cures far greater than in the past.

THE FAMILY PHYSICIAN

The gradual disappearance of the old family physician who was friend, counselor and adviser of the community in which he resided is certainly to be regretted. He was better educated outside of medicine than the physician of today. His knowledge of the psychology of medicine was often superior to our own. It is true that with the advent of large clinics practically everything of a scientific nature can be done for the patient. The specialization of different branches of medicine and the great advance in different fields of surgery has brought all branches of medicine to a degree of efficiency higher than could have been conceived in the past. Still, it must be remembered that the old doctor's high hat, long coat and friendly smile often created perfect trust and confidence, and his assurance that everything would be all right caused many a disturbed ductless gland to function properly, in a way that no skilful knife or pharmaceutical remedy *can ever equal. The passing of the old family physician* with the great qualifications admired and respected is the natural result of the demand of the layman for better medicine. The layman's increasing knowledge and understanding of many of the problems of surgery has made the passing necessary. The mass of scientific data has increased so rapidly that student and physician alike soon realized the impossibility of digesting it all, and focused attention on restricted fields of knowledge, neglecting education along nonscientific lines and even on the important subject of psychology. Some persons are instinctively good psychologists. It is a gift, but it can be cultivated. The wonderful man of the past known as the family physician passed on this, his greatest heritage, to us, and it is to be hoped that the physician of tomorrow, no matter how scientific he may be or how accurate his knowledge of the body, will not neglect to acquire the ability to give the patient and those around him a cheerful outlook and confidence and assurance of ultimate recovery.

STATE AND HOSPITAL RESEARCH LABORATORIES

Surgery today is not restricted to the larger centers as it was in the past, but excellent work is done even in the smallest communities. If these men in the smaller places are to continue to forge ahead, they must from time to time have opportunity to discuss the problems of surgery in research laboratories. In the larger centers this is now done. There is an old Chinese proverb which is true today, "To converse with a learned man for one night is better than studying books for ten years." I know one busy man who gives a half day each week to the discussion of his surgical problems with the workers in a research laboratory. This opportunity, although probably not so often as a half day a week, could be obtained easily by all of us if each state would organize a state surgical association allowing all members of the state association interested in surgical problems to contribute toward one centrally located research laboratory. Such a plan would increase the number of men in research work, stimulate the younger men to do better work, and many problems, at present unsolved, could be worked out for the benefit of medicine and mankind.

It has been stated that there are in the United States at the present time about 1,500 men devoting themselves to preclinical research work. With the additional number of workers made possible through such organizations, the establishment of research laboratories in connection with the better hospitals would soon follow. When the layman appreciates the fact that the surgeon of today, besides his manual skill and knowledge of anatomy, must have a grasp of the subjects of pathology, physiology and biochemistry undreamed of a few years ago, and when he realizes that every patient presents a problem more difficult of solution than those in any other field of science, state laws will be changed to foster research work so that not only men but animal husbandry as well will be benefited by the knowledge gained.

THE SURGEON OF TODAY

At present there are three types of trained men who are doing most of the surgery in this country. The first, and the one probably most respected by the medical profession, is the one who is associated in some teaching capacity with one of the medical schools. Some of these men are whole-time men and others have a large surgical practice outside their teaching positions. They have attained these positions usually because of scholastic ability, ambition and inclination on their part to teach. The second type of surgeon is one who has had excellent surgical training in some of the medical centers with one or two of the recognized leaders of surgery of this country. The third type of surgeon is the man who has not had any particular training but who, because of a good personality and energetic disposition, builds up a large individual practice. In this practice he begins to do the simpler surgical operations and gradually takes in a larger and larger field as the years go on until eventually his practice is all surgical. Most of the surgeons of this type do not live in the larger centers, but the class of work they are doing is, on an average, as good as any. They are men who recognize their shortcomings. They travel annually from clinic to clinic picking up here and there bits of information, gradually growing in experience, becoming more proficient year by year, until at the age of 50, from the standpoint of experience, judgment and surgical technic, they are giving to their clientele the best obtainable service. These men have reached their position in life, first because they are particularly adapted to the profession which they have chosen and, secondly, because of an ambition to carry on under what they believe to be adverse conditions. In the future they will probably not give to surgery any great discoveries, but they can, and I know that they will, stabilize the best procedures in surgery and continue to do a great volume of work.

These three types of individuals, trained under different circumstances, should in the future appreciate one another and try to accept some of the good qualities that the others have. The most deplorable state of affairs in the surgical ranks is that engendered by the man too well satisfied with himself and the conditions around him. It is a fact in surgery as well as in any other field that one must go forward. To stand still is to go backward. That such a condition is not probable, we are happily aware. The progress which has been more or less continuous for many years and which was never greater than in our time and in our country is our best guarantee that the efforts we make are to be crowned with success. There are doubtless many ills of the flesh which are beyond our skill and may always so remain, but enough has been done to show that humanity has no kindlier and more beneficent aid than that afforded by modern surgery.

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RADIOLOGY *

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The word, or caption, "radiology" has been in general use for a great many years as denoting the medical application of roentgen rays, radium and allied agents. Even before radio broadcasting terms came into being and added confusion to the issue, the word "radiology" was employed in European countries as noted. It appears, therefore, that the medical profession has a prior right to the term, and in the absence of a better word to define our specialty an attempt should be made to define radiology properly and also to place a reasonable limitation on its scope.

Next in order would be the adjusting of the rather cumbersome terminology now in vogue by simplifying the words in daily use and eliminating all those which are unnecessary or unwieldy. To this end the several national radiologic societies in America have been asked to cooperate and it is to be hoped that they will respond.

It seems desirable to maintain radiology as a separate entity, and this has been made apparent, first, by the American Medical Association's authorizing a section on this subject, and, secondly, by the creation of the Council on Physical Therapy. This council has already accomplished a great deal toward separating the wheat from the chaff among the heterogeneous maze of physical and technical specialties which exist on a border line of professional respectability. It is apparent, therefore, that physical therapy in all its ramifications must be given time to clarify its own atmosphere before it can eventually emerge free from extrinsic contamination and be properly made a part of recognized scientific medicine and surgery.

The contributions of radiology to medicine and surgery are legion and need scarcely be dwelt on here. The outstanding service of the roentgen ray in diagnosis, however, may be briefly touched on. This has become a fine art, mechanically perfect and scientifically accurate.. The illumination of the entire human osseous structure is easily accomplished. The use of opaque meals and mediums, the introduction of dyes and air, permitting visualization of the hollow viscera and interorganic spaces, have revolutionized our conception of normal and pathologic anatomy; and while it appears that we cannot at present expect to reach any higher diagnostic levels, no one has had the temerity to state that the end has been reached or to prophesy what the future may hold in store.

From a therapeutic standpoint, the roentgen ray occupies a unique position. Here the radiologists are confronted with complex problems and enormous responsibilities. There is as yet no reliable standardized measurement of output, no accurate method of dosage and no immediate prospect of a purely mechanical easy procedure. Many theories as to voltage, milliamperage, distance, penetration, filters, and field selection are promulgated and generally accepted, but the ideal amalgamation of all these factors still lies in the future.

It must be obvious that it is of utmost importance for a therapeutic radiologist to be trained in the fundamental medical sciences in order to use intelligently the forces at his command. Just because the short wave roentgen ray did not immediately destroy all deep lying cancer cells, a reverse action for roentgen-ray nihilism should not be set up. We know that in suitable dosage these cells can be destroyed, and perhaps, when eventually all the factors of radiation have been brought down to simple mechanical and mathematical control, the present unstable conditions will be successfully overcome. There is ample reason to feel pleased over the good already accomplished in a large list of pathologic conditions, and it is perhaps not untimely to state that the world has not yet produced a single remedy which has exerted a greater influence on human diseases than the energy of radiation.

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* Chairman's address, read before the Section on Radiology at the Seventy-Eighth Annual Session of the American Medical Association Washington, D. C., May 18, 1927.

With radium, the problem is more simple. Here is a constant, potential, unwavering source of radiation energy simple in form, easily adjusted to existing conditions and readily applied. One great source of disappointment has been with the radiologist himself attempting to accomplish the impossible with this agent, often bringing discredit on himself and unearned criticism on the element radium.

Not a few medical men have attempted radium therapy with a wholly insufficient supply of radium and with even lesser knowledge of the subject. Full publicity should be given such practice in order that it be discouraged and done away with. It would seem reasonable to assume that, with new discoveries of radium-bearing ore, the price should be reduced to a point at which ample quantities of pure radium salt could be available to those qualified to handle it. This would enable the use of massive doses to remote fields and perhaps cause a realization of the dreams of older radiologists, who have long looked forward to homogeneous short-wave radiation. Perhaps an appeal to those men who have apparently cornered the radium ore supply may hasten the attainment of this much desired ideal for humanity's sake.

The new Coolidge tube with its unlimited supply of beta radiation has a significant bearing on the future of radiotherapy. In the few months elapsed since Dr. Coolidge made this announcement, not sufficient time has passed to permit anything but the briefest survey of the situation. Even Dr. Coolidge himself, it is safe to assume, has not yet been able to placard all the phenomena that follow the application of his beta ray discharges under a voltage of 350,000 or more.

It is not difficult to visualize a very important place in therapy for this new arm of radiant energy, but from present indications it must be approached with extreme caution, for it appears to be truly a potential death ray in a limited sphere. On the other hand, it may prove to be a boon to humanity when thoroughly mastered.

Radiation therapy is so inseparably bound up with the cancer problem that a word may be permitted alining this subject with Blair Bell's studies on colloidal lead. In America close students of Dr. Bell's work have by no means approached his results and this also bears out my own experience.

This subject is of such singular importance, however, that it does not seem just to condemn or even discourage the method until further experience has been reported and others have been provided with the same colloidal solution that has proved so satisfactory in the hands of Blair Bell, the creator of this method, and his colleagues.

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PULMONARY EMBOLISM FOLLOWING OXYGEN INJECTION OF A KNEE

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It is almost axiomatic that we learn as much from our mistakes as from our successes. My purpose in this report is to call attention to a case in which an error in the technic of oxygen inflation of a knee joint was followed by pulmonary embolism and cardiovascular failure, and nearly resulted in a catastrophe. I have injected so many joints with oxygen without the slightest untoward result that I had come to the conclusion that the procedure is entirely harmless. During my early experience with pneumarthrosis, I often used too strong a current and injected more of the gas than was necessary, and though I did not deflate the joints I did not see any ill effects. The joint was widely distended and the superfluous gas infiltrated the subcutaneous and intermuscular planes and the muscles themselves. The gas was gradually absorbed, disappearing in from eighteen to seventy-two hours. Thus, because of its apparent harmlessness and because of its proved value I have urged a wider adoption and application of this important test.

Recently I had an experience in a case of pneumarthrosis which sharply brings to the fore the imperative need for observing rigidly every detail of the technic. The injection was performed by a house officer. Unfortunately I was not scrubbed up, so that, while the intern knew the details of the technic and had helped me in another case, I was unable to make certain that every step of the procedure was carried out accurately.

REPORT OF CASE

J. P., a youth, aged 19 years, was admitted to the hospital for an operation on the left knee. Several months previously he fell and fractured the left patella. In our outpatient department an examination disclosed a loose fragment of bone in the knee joint. When he was admitted to the indoor service, it was decided to inject the knee with oxygen to determine the exact location of the loose fragment before opening the joint.

The patient was accordingly taken to the roentgen-ray department and preparations were made for the injection of oxygen. The apparatus consisted of a nearly empty oxygen tank, so that the gas pressure would be low, and a sterile rubber tube and needle about 4 inches long. The knee was painted with iodine and then the needle was inserted at a point opposite the middle of and external to the patellar tendon. It was pushed upward, inward and backward so that its point would be behind the patella and within the joint. When the needle was inserted about 2½ inches, it appeared as if the point of the needle ought to be within the joint cavity, and the house officer said he felt the point of the needle moving freely within the joint space. A weak stream of oxygen was turned on. Immediately the patient complained of a peculiar feeling about his heart. As the boy had a nervous temperament, we did not attach sufficient importance to his complaint, and since the joint was not distended the injection was continued. Within several seconds the patient stated that he was dying and became white. The injection, which had not lasted over one-half minute, was stopped.

A hasty examination showed that the patient was pulseless, he was very pale, and the pupils were widely dilated. Stimulants were administered. Within several minutes he was given epinephrine hydrochloride subcutaneously. The heart beat could not be felt or heard and very soon respiration ceased. By this time his face was livid. Artificial respiration was begun and additional stimulants were injected. He received a second dose of epinephrine hydrochloride and caffeine sodiobenzoate subcutaneously, but to no avail. The patient was apparently dead. The artificial respiration was continued, and it was suggested as a last, though not very hopeful, procedure that epinephrine be injected directly into the heart. Hence about 10 minims (0.6 cc.) of 1:1,000 epinephrine hydrochloride was injected directly into the heart through the fourth intercostal space. This injection was made about fifteen or probably twenty minutes after the heart had stopped beating, and at least ten minutes after the patient had stopped breathing and was apparently dead. In about a minute a faint pulse was discovered in the radials. The heart beat gradually improved and color began to return to the face. In about five or ten minutes the patient began to breathe and very soon thereafter the heart action and respiration were of fair quality.

For about a half hour the patient's mouth was filled with an abundant frothy, blood-stained saliva. As the heart action improved, he became restless and moaned. He then began to shout and toss about vigorously. He was entirely unconscious and was so uncontrollable that it took several assistants to restrain him on the examining table. The cerebral and motor excitation became intense, probably as a result of overstimulation. At the end of about two hours after the accident, when it was deemed safe to move him, he was taken to a private room, was placed in a warm pack, and was given sodium bromide by rectum.

During the course of the night he calmed down and on the next day he was in fair physical condition, though entirely disoriented. The improvement continued, and in a few days he became thoroughly conscious and entirely oriented. Finally his mentality returned to normal except that, happily, he had no recollection of the accident. There was at no time any evidence of muscular twitching, paresis or paralysis. The reflexes, when examined on the day after the injection, were normal. On the tenth day he was discharged from the hospital able to walk and looking and feeling well. He was seen recently, ten weeks after the accident, and appeared in excellent condition.

A roentgenogram of the knee taken within an hour of the injection showed that there was no gas in the joint or in any of the periarticular tissues. Roentgenograms of the chest did not reveal any abnormality of the lungs or heart.

COMMENT

This occurrence draws our attention to several errors. The first was in the technic, for after the needle was in the knee, the tube was not disconnected to see whether there was any flow of blood. A return flow of blood would, of course, have indicated that the needle was in a blood vessel and not free in the joint. I remember distinctly asking the house officer whether he felt the point of the needle move about freely within a cavity, and he assured me he did. It was an error on my part not to have been scrubbed up so that I could have been certain about this very important detail. The next error was in continuing the injection of oxygen after the patient complained of discomfort about the heart. Our reason for disregarding the complaint was that the boy was of the hypersensitive type, and since the joint had not been distended, it was believed that the assistant handling the oxygen tank had not yet released any of the gas, and, therefore, the patient had no reason to complain but was simply nervous.

The happenings may be explained as follows: A continuous stream of oxygen was forced into the circulation, and by its volume and suddenness of entry the oxygen distended and occluded the lungs. From the presence of frothy saliva for a long time during the recovery, I believe that the oxygen was intercepted in the lungs and that none of it reached the central nervous system. This is I think substantiated by the fact that there was no muscle twitching, convulsions, motor paralysis or other evidence of immediate invasion of the cerebral motor mechanism. The stream of oxygen forced into the circulation distended the lungs so much that the cardiac action was embarrassed and ceased, and the function of the lungs was interrupted. The injection of the epinephrine into the heart produced such violent contractions of the cardiac muscle that the stream of blood forced into the lungs caused a rupture of the lung tissue allowing the oxygen to escape, and thus released the injurious intrathoracic pressure.

From my own experience and that of others who have injected oxygen into joints, the cerebral ventricles and the spinal canal, we know that oxygen is not harmful to soft tissues, even in very large quantities. We know also that during blood transfusions no harm results from the accidental entry of small quantities of air into the circulation. The injury in this case was, therefore, mechanical in nature.

I have not read any report of a similar case and am recording this experience, not to discourage pneumarthrosis, which in selected cases is very valuable, but to focus attention on the necessity for observing every detail of the technic. One must be sure that the point of the needle is free within the joint. At first a small amount of gas should be injected, and this should cause a distention of some part of the joint, indicating that the gas is entering the joint and nowhere else. If the joint is not distended the injection should be stopped, the needle manipulated, inserted farther, retracted, or pushed in another direction until one is certain of its position. I have found that it is best to insert the needle so that the point is behind the patella; in this situation one is not likely to enter a blood vessel. We expect discomfort in the joint that is being injected because the capsule is distended. Complaint of discomfort elsewhere should be followed immediately by cessation of the injection and investigation.

SUMMARY

In a case of pneumarthrosis, pulmonary embolism and cardiovascular failure immediately followed the accidental injection of oxygen into the circulation. The heart stopped beating first, followed in about five minutes by the cessation of respiration. Artificial respiration was instituted, but for about ten minutes the patient was apparently dead. An injection of epinephrine hydrochloride into the heart revived the patient and prevented what appeared a certain catastrophe. The accident was the result of faulty technic, which is acknowledged in detail, so that it may never happen again. The author in making this report hopes that it will not deter others from using pneumarthrosis, which is an invaluable diagnostic test in doubtful and properly selected cases.

1 West Eighty-Fifth Street.

Toxic Element in Burns.—It is the existence within the body of tissues in a state of chemical dissolution that is evidently the exciting feature of the disturbance—not an organismal decomposition, but a chemical change, and one, moreover, which results in the production of potent toxic elements. . . . It has been suggested that they are closely allied with, if not exactly similar to, histamine or pyridine. Certainly there are many points of similarity between the picture of "histamine shock" and that of the toxic stage of burns. The dangerous character of the toxemia depends on its liability to pick out and deteriorate specialized tissues—the liver cells, the delicate cells of the kidney tubules, and the chromaffin tissue of the suprarenals. The striated heart muscle is poisoned and degenerated, and the lymphoid tissue shows points of focal necrosis. It is not difficult to explain the symptoms and signs which distinguish the early stages of the toxic phase—the rise of temperature, the restlessness, the rapid pulse—each has its pathologic counterpart, but underlying all this, there is some more subtle influence which specifically and definitely deranges metabolic processes.—Fraser, John: *Brit. M. J.*, June 18, 1927.

THE OCULAR FUNDUS IN THE ACUTE TOXEMIAS

AN ANALYSIS OF EIGHT HUNDRED AND FIFTY CASES *

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The manifestations in many general conditions, as revealed by the ocular fundus, have been analyzed as to type and incidence on a comparative basis. These tabulations are of the greatest benefit to the ophthalmologist in aiding the internist and surgeon in diagnosis and prognosis.

The toxemias are treated separately in the literature, although there are certain signs that are common to all. They are all acute infectious processes with many fundamental pathologic similarities. Since the toxemias quickly showed generalized symptoms, it was thought that the eyegrounds might be seen to participate more or less uniformly if a sufficient number of cases of all types were studied. To this end, the eyes of every patient admitted to the medical wards of the Cincinnati General Hospital were examined as a matter of routine. Only the fundus observations in the acute toxemias are considered here. The word "lesion" henceforth will refer only to those of the fundi.

The literature abounds in reports of ocular derangements associated with these diseases. It would be pointless, so far as the purpose of this study is concerned, to compile an extensive survey of them. In this analysis I present certain conditions in the fundi which are not characteristic of any one disease but are common to all, and which occur with sufficient frequency to make them noteworthy.

The type of ocular lesions found in patients in a medical service differ markedly from those found in an eye clinic. Those found in medical patients are apt to be less widespread, and of a more transient character with less destruction to tissue and vision. The conditions encountered in an eye clinic cause ocular symptoms chiefly, such as disturbance of vision or pain, and are usually more widespread, destructive and permanent. Only 3 per cent of the patients examined had any ocular complaint other than the simple statement that they wore glasses.

Fifty-two per cent (440) of the patients presented abnormal fundus conditions which were considered to be dependent on some constitutional condition. Eighty-five per cent (374), or 44 per cent of the 850, were considered to be dependent on the acute toxic processes for which the patients were then being treated. The lesions reported exclude all thought to be due to retinal arteriosclerosis, or renal or diabetic diseases.

After the first seventy-five cases were observed, it was evident that there were certain deviations from the normal occurring with some regularity. They appeared to be dependent on the type and especially the severity of the infection. They changed with the course of the disease, became less marked when the temperature fell and the infection seemed to be subsiding, and advanced when the disease seemed to be progressing. A search of the literature and a limited correspondence failed to reveal reports of similar observations. Sir William Willcox,[1] in a discussion, said that he had recently been interested in the ocular fundus in toxemia. He simply mentioned hemorrhages as one manifestation.

GENERAL MANIFESTATIONS

These manifestations could be grouped into three classes:

1. Toxemias of mild intensity and short course: (*a*) disks normal or slightly hyperemic, with vessels (especially the veins) slightly dilated. Associated chiefly with influenza, acute rhinitis and acute sinusitis of moderate intensity. (*b*) Average temperature 100 F. (*c*) Average duration from four to five days.

2. Toxemias of moderate severity and longer course: (*a*) Disks rather hyperemic, margins occasionally blurred; vessels definitely dilated, and often slightly tortuous. Associated with pneumonia, severe sinusitis, severe acute polyarthritis, typhoid, pyemia, septicemia, encephalitis and meningitis (especially cerebrospinal). (*b*) Average temperature from 102 to 103 F. (*c*) Average duration from one to eight weeks and occasionally death.

3. Toxemias of great severity: (*a*) Disks with margins blurred by edema and vessels quite dilated. Surface of disks often fades insensibly into surrounding retina. White streaks show line of nerve fiber bundles. Occasionally retinal edema; punctate hemorrhages from the finer vessels into the retina. Twice small whitish, retinal areas around or near the disks were seen (retinitis septica of Roth?[2]). Occasionally edema of the disks was seen as a forerunner of a frank optic neuritis (1.5 per cent).

Table 1.—*Numerical Distribution of Fundus Changes*

		Class 1	Class 2	Class 3	Total of Each Disease	
					No.	%
Influenza and (grip?).........	105	29	..	..	29	16
Acute rhinitis.........	27	8	..	..	8	33
Sinusitis.......................	145	10	12	13	35	24
Pneumonia.....................	192	9	41	101	151	78
Acute multiple arthritis......	46	3	10	12	25	54
Typhoid.........................	26	..	7	4	11	42
Pyemia and septicemia.......	104	..	30	31	61	57
Encephalitis.....................	125	6	17	11	34	27
Meningitis: 1. Cerebrospinal..	22	..	9	7	16	72
2. Pneumococcic..	2	..	..	1	1	50
3. Tuberculous...	5	..	..	2	2	40
Cholecystitis with jaundice...	1	..	..	1	1*	
Total.......................	850	65	126	183	374	

* Percentage in cholecystitis is not significant because the other cases of jaundice were not tabulated. It is regarded in this series as an unusual complication probably due to the same focus causing the cholecystitis.

Table 1 shows the numerical distribution of these conditions.

ANALYSIS OF THE THREE CLASSES

Class 1 (18 per cent, 153): The mild types of the toxemias were, of course, in the minority, because the patients who apply for entrance into a general hospital have usually something more severe than a mild cold or uncomplicated influenza. Thirty per cent (forty-five) of the patients in this class presented changes ranging from slightly to moderately hyperemic disks. Hyperemia was called such only when the disks became less involved as the patient recovered. The fine grade of distinction between a normal and a hyperemic disk calls for a conservative reading. In 1901, von Michel reported two cases of septicemia with hyperemia of the disks which seemed to change during the course of the disease. An examination afterward revealed that both were normal. Terrien and Boudier[3] reported three cases of hyperemia of the disks in three cases of cerebrospinal meningitis.

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* Read before the Section on Ophthalmology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

[1] Willcox, William: Abstr., Arch. Ophth., November, 1925.

[2] Roth: Arch. f. Ophth. 55: 1872; Deutsche Ztschr. f. Chir. 1: 471, 1873; Handbuch der Augenheilkunde, ed. 3, pp. 976-977.

Class 2 (56 per cent, 476): This type represented the largest class, but the next to the smallest percentage of changes. While changes here were not so striking as those in class 3, they were of sufficient definiteness to entitle them to consideration. Twenty-five per cent (119) of the cases in this group presented changes some time in the course of the disease. These changes consisted of increased capillarity of the disks, and occasional slight blurring of the margins, especially over the upper nasal border. The larger vessels, especially the veins, also had a tendency to become dilated, and, at times, slightly tortuous. Blurred disk margins never occurred in any patient with a temperature under 102 F.

TABLE 2.—*Distributions of Lesions in the Various Diseases*

Simple hyperemia		102
Influenza	13	
Sinusitis	4	
[illegible]	20	
[illegible]	5	
[illegible]	19	
[illegible]	4	
Slight edema with some dilatation of blood vessels		76
Influenza	6	
Sinusitis	24	
[illegible]	22	
[illegible]	16	
[illegible]	8	
Marked papilledema and retinal edema		40
Pneumonia	20	
Multiple arthritis	8	
Sinusitis	5	
[illegible]	3	
[illegible]	4	
Edema and retinal hemorrhages (all types)		32
Pneumonia	3	
Multiple arthritis	1	
Pyemia	4	
Typhoid	1	
[illegible]	1	
[illegible]	2	
Optic neuritis		8
Pneumonia	2	
[illegible]	2	
[illegible]	1	
[illegible]	2	
[illegible]	1	
Embolism of central artery		2
Typhoid	1	
Pyemia	1	
Thrombosis of branch of central vein		1
Encephalitis	1	
Massive choroidal exudate		1
Pneumonia	1	
Metastatic choroiditis		2
Encephalitis	1	
Meningitis (tuberculous)	1	
Septic retinitis of Roth ?		2
Septicemia	1	
Encephalitis	1	

Hirschberg[4] saw three cases of pneumonia with great hyperemia and slight edema of the disks, which had receded when he examined the patients after recovery. He definitely associated the phenomena with the toxic processes. Von Hippel[5] also reports papilledema in pneumonia, which disappeared after recovery.

Class 3 (26 per cent, 221): In this class are grouped the cases of severe pneumonia, meningitis, severe typhoid, septicemia and sinus diseases. Eighty-five per cent (190) in this group presented changes. One hundred and seventy-eight had various degrees of disk changes, ranging from increased capillarity to optic neuritis. Eighty-six presented a moderate edema of the disks, with slightly blurred margins and dilated vessels. Fourteen of these eighty-six had marked papilledema, which advanced with the progress of the disease and receded as the condition subsided. After recovery, the eyegrounds were entirely normal without sequelae. Thirty-two patients developed retinal hemorrhages. Twenty-six of these were of the finer punctate character, which were apparently from ruptured fine vessels. Table 2 shows the incidence of these lesions. Twenty-two patients in this group presented severe changes of one sort or another. Six developed optic neuritis, which appeared after the inception of the toxemia in each case. All developed the usual picture of visual disturbance and sequelae. Two developed embolism of the central artery; one, thrombosis of a branch of the central vein; one, a metastatic choroidal exudate; two metastatic choroiditis, and two, white retinal areas around the disks (septic retinitis?).

From the foregoing analysis it is evident that the severer types of infection produced the greatest percentage of lesions, both mild and severe. The cases that presented the simplest conditions, such as increased capillarity, slight edema of the disks, and retinal edema, associated with dilatation of the larger vessels (especially the veins), were of greater interest and of more importance than those which presented the severer lesions, such as hemorrhages, areas of degeneration, and neuritis. The former, if present, seemed to present a sort of bird's-eye view of the course of the disease, from which, quite often, could be told the stage and probable severity of the infection. All these signs seemed to be stages of varying degrees of the same process. The degree was usually found associated with the height of the temperature; i. e., the higher the temperature, the more pronounced the manifestations. In cases in which there was very mild involvement, such as uncomplicated influenza or not too severe pneumonia, nothing more than a mild hyperemia or dilatation of the larger vessels occurred. During the influenza epidemic of 1890, a great many ocular complications were reported. These are not to be confused with the changes noted here, for while the former are considered as complications dependent on accidental metastasis or communication, the latter are considered a part of the general reaction, returning to normal as the illness subsides.

In the severer toxemias (class 2), hyperemia was first manifested with dilatation of the greater vessels, and, if the process continued with an increased temperature (above 102 F.), edema of the disks often followed, which increased or subsided with the course of the disease.

The very severe infections, such as are represented in cases of severe pneumonia, encephalitis and meningitis, passed through the first two stages quickly and presented definite papilledema, retinal edema and, in certain instances, retinal hemorrhages and areas of degeneration in the retina. Observers of cases of meningitis differ widely in reports of ocular conditions. Randolph[6] found papilledema in 17 per cent. He also found retinal vein engorgement in nineteen out of thirty-five cases. Batten says that it is rare. Barlow and Lees[7] found three in forty-two cases. Twelmyer[8] reports a case of metastatic ophthalmia in cerebrospinal meningitis. Reports of papilledema and optic neuritis found in encephalitis agree essentially. The British

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[3] Terrien and Boudier: Arch. f. Ophth. **29**: 301, 1909; **30**: 214, 1910.

[4] Hirschberg: Ueber Fieber bei Augenentzündungen, Centralbl. f. prakt. Augenh., 1911, pp. 193-196.

[5] Von Hippel: Falle von Stauuangspapille bei Pneumonie, Med. Klin., p. 1286.

[6] Randolph: Bull. Johns Hopkins Hosp. **4**: 59, 1893.

[7] Barlow and Lees, in Allbutt's System of Medicine, **7**: 174, 1910.

[8] Twelmyer, O.: Metastatic Ophthalmia, Vereinigung des Augenaerzte Schleisiens und Posens, Breslau, March 4, 1923.

Government Board Report[9] states that papilledema in encephalitis is seen occasionally and optic neuritis exceptionally. Forty-seven patients examined by Moore[10] did not show changes referable to the disease. In the forty-eighth case there was secondary optic atrophy, but its cause was in doubt. I found one case of optic neuritis in 125 cases of encephalitis which was undoubtedly associated with the disease. Its entire course was followed from the beginning, which did not occur until a week after the admission of the patient. This patient died fourteen days after admission. I should like to repeat that such a condition was considered dependent on a secondarily infected optic nerve, while the simple edema is an altogether different affair associated with the general circulatory reaction.

Holden[11] mentions sinusitis as one of the causes of papillitis. Mention is not made of simple papilledema. In one case of severe pansinusitis in which there were acute symptoms of pain, headache and malaise, and a temperature of 103 F., the disks were markedly edematous, the vessels were quite dilated, and there was considerable retinal edema present, as shown by the regular waving of parallel vessels and an increased "watered silk" reflex. Drainage of the sinuses improved the condition, and the ocular signs gradually subsided until, some time after recovery, the eyegrounds were perfectly normal. A similar condition has been noted and discussed by other observers, but it has usually been explained as an isolated phenomenon instead of part of a generalized process. The cases which presented the severest general signs and in which the prognosis was ultimately bad presented the greatest fundus changes. Two cases of pneumonia passed through the ocular stages of hyperemia and edema, with later rupture of the finer capillaries, which produced widespread punctate hemorrhages. One patient passed through the earlier stages and finally developed bilateral optic neuritis. All three of these patients died. Bull[12] reported six cases of retinal hemorrhages in the course of pneumonia but did not record the outcome. Clothier[13] reports a fatal case of typhoid, in which the patient developed optic neuritis. The cases of retinal hemorrhages in the septicemias were in those of the severer variety; i. e., they were of longer duration, and more destruction and graver sequelae ensued. Flemming[14] reports forty-two cases and makes a like assertion. To avoid making this paper lengthy with interminable case reports, tables 1 and 2 have been prepared to show at a glance the incidence of the conditions.

I feel that the majority of these manifestations are due to local dilatation with increased permeability of the blood vessels and exudation into the surrounding tissues. I[15] reported similar conditions associated with serum sickness after the injection of diphtheria antitoxin. In these cases, the manifestations were associated with the increase and subsidence of the reaction, as indicated by the chills and the temperature.

Then, too, is it not true that it is fairly universally accepted that the great internal vascular beds, such as those in the abdomen and lungs, take part in a general dilatation with exudation during these toxemias, especially those in which there are severe symptoms and high temperature? This, with the contraction of the vessels of the skin, tends to hold heat in with a consequent elevation in temperature. Therefore, may not the retinal vessels take part in this general reaction? Their readily accessible position lends them importance, since they are the only vessels of consequence that can be so easily observed without undue manipulation.

The reports of similar conditions in toxemias indicate their probable occurrence but not their frequency or importance. The statistics compiled by different observers are at great variance. This is probably due to the fact that one observer may have examined each case only once and recorded his observations. Another may have examined his series only on consultation because the patients complained of ocular disturbance. The former would tend to report a very small percentage of changes and the latter would see only the very severe changes. These cases must be observed daily throughout the illness if the finer changes are to be noted and a basis for differentiation established of stages and severity of a given disease. Routine ophthalmoscopic examination of patients suffering from general illnesses is again emphasized, for, apparently, changes appear in the commonest diseases with sufficient regularity to make them of definite help in following the course of these diseases.

CONCLUSIONS

1. Ocular fundi in various types of acute toxemias present common changes, depending on the type and severity of the infection.

2. This appears to be a local manifestation of the general reaction.

3. The reactions in the main are simple hyperemia, slight dilatation of the larger vessels, and low grade edema of the disks and surrounding retina, associated with a greater dilatation, depending on the severity of the reaction.

4. There are other changes often seen occurring in the fundi in these diseases, such as retinal hemorrhages, whitish areas of retinal degeneration and occasionally papillitis.

5. The reactions described under 3 were considered to have occurred with sufficient regularity to entitle them to consideration as definite entities in these diseases, and consequently as of practical importance in diagnosis and prognosis.

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ABSTRACT OF DISCUSSION

Dr. James P. Fitzgerald, Chicago: Dr. Brown has presented for the first time the results of prolonged and painstaking observations on a series of cases of acute toxemia sufficiently large to permit a reliable correlation of data. The fact that certain features of fundus changes tend to become characteristic in diabetes, renal disease and high blood pressure has unduly limited the clinical application of ophthalmoscopic observations. To the experienced observer, the eyegrounds in meningitis, sinusitis, the pneumonias, and pericarditis are in a sense characteristic, too. The point of emphasis in this study is in the weight of its evidence that the bilateral eye conditions of the type described are the frequent and early and commonly disregarded first signs of systemic infection, and that cyclic variations in the eye picture run parallel to the fluctuating course of the disease. Predictability, with its support to the clinician, becomes possible on this basis. Furthermore, Dr. Brown has disclosed the only method by which ophthalmoscopy can hope to become clinically useful.

From the point of view of internal hospital administration as well Dr. Brown's work is demonstrative.

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[9] Local British Government Board on Encephalitis Lethargica, number 121, London, 1918.

[10] Moore, R. F.: Medical Ophthalmology, ed. 2, p. 143.

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Administrative medical schemes in the past have favored team work between general and special services much less than they do at the present time, and the ophthalmologist has not always had facilities for following his cases through. The essential thing about the medical staff is that it shall form a cooperative group. The eye department especially is conceded such independence that it often operates as a special hospital within the general hospital.

The diagnosis of a choked disk in a lesion of the central nervous system brings out the interdependence of departments. A careful metabolism test and chemical examinations of the blood may be the first procedure in the treatment of many eye diseases. But persistent, asthenopic symptoms which might suggest an error in refraction or in muscle balance may vanish after a simple appendix operation, the removal of septic tonsils, or the elimination of other foci of infection.

Either chronic or acute septic and toxic conditions have a marked effect on the eye and are probably responsible for more indirect troubles than we recognize. Teeth, tonsils, bowel toxemias and focal infections generally, participate, and such nonbacterial toxemias as those which occur in pregnancy. Many different organisms are involved and the systemic effects may overshadow the local septic focus.

The eye is an intimate part of the body, not a solitary organ. The eye lesions in acute toxemias are closely dependent on constitutional conditions so grave as to overshadow the local condition.

A STUDY OF EXPERIMENTAL HEAT-STROKE *

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A previous communication[1] presented a statistical study of heat injuries that have occurred in the United States Navy. The clinical aspects of heat injury and the several theories of its etiology, as given by various observers from biblical times until experimental work on the problem began with Claude Bernard, were cited.

In 1858, Claude Bernard[2] produced deaths in birds and mammals by raising their temperatures 4 or 5 degrees C., and showed that, at autopsy, the lesions found were similar to those noted in major heat-stroke. Bernard, in a later communication, considered the cause of death to be due to purely physical causes; i. e., elevation of the blood to such a high temperature. Following this work, in 1872, H. C. Wood[3] described some experimental studies. The conclusions drawn are practically the same as those of Bernard. Wood also noted that "the more violently a muscle is made to contract before subjection to heat, the sooner it becomes paralyzed." The fact that the production of heat and of lactic acid in muscle are both definitely increased by exercise probably had a bearing on this observation.

The formation of lactic acid during muscular contraction has been demonstrated and studied quantitatively by Hill.[4] Physiologists have shown that, in the resting muscle, lactic acid is present in only very slight traces (0.02 per cent), but the amount is greatly increased during contraction or in the processes leading to rigor.[5] Normally, two thirds of the lactic acid formed in the muscle during contraction is reconverted into glycogen. The remainder is oxidized, with the production of heat.[5] This acid is regarded as an intermediary product formed in the course of the chemical reactions constituting the normal metabolism of the muscle. Fletcher and Hopkins[6] have shown that, in heat rigor, a maximum of lactic acid is produced in the muscles (from 0.3 to 0.5 per cent).

Heat production, in the living organism, is brought about by oxidative processes, principally in the muscles. The heat production in the viscera is practically negligible.[7] Heat loss is accomplished by conduction, radiation, and evaporation of moisture from the body surface and from the lungs in the expired air, by introduction of cool fluids and foods, and through the various excreta. These physical processes, in turn, are influenced by the clothing, the temperature, humidity, and velocity of the air currents. It can be seen that, if the physical and environmental factors are altered, the organism must adjust itself physiologically to meet the given conditions. This adjustment is regulated by the so-called thermogenic center. Ott[8] observed that the introduction of a probe into the brain, puncturing the corpus striatum, caused an increase of temperature of the body which lasted for some time. However, lesions of the optic thalamus, septum lucidum, cortex, midbrain, pons and medulla have been stated to produce a general rise of body temperature. Barbour[9] has shown that heating the brain, by a special device, in the region of the corpus striatum produces a fall, and cooling, in this region, produces a rise in the body temperature. These experiments tend to show that there is a regulatory center in the brain which, if injured, produces changes in the body temperature. If such a center does exist, it would be likely that it played a very important part in major heat-stroke.

That the humidity of the air must, in some way, influence the production of heat-stroke is based on clinical observations. The long painstaking research of many observers, especially in obtaining wet and dry bulb temperatures (hygrometry) at the times of the greatest incidence of heat-stroke, have emphasized the fact that heat-stroke occurs in an environment in which the temperature is high with a high relative humidity.[10] Recently Flinn[11] exposed animals to "high dry" temperatures without disastrous results. Observations of Blagden and Fordyce,[12] in 1775, showed that a man in good health could stand, for a period of fifteen minutes, an exposure to a dry atmospheric temperature of 250 F. without feeling any ill effects or a serious rise in body temperature, while a beefsteak exposed at the same time to the same environment was cooked in thirteen minutes.

It is obvious that the body temperature of a mammal need only rise slightly above that registered by the wet bulb thermometer to lose heat to the surrounding

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* From the laboratories of the U. S. Naval Medical School.

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medium. Thus, in an environment of high temperature with a low relative humidity, the organism is efficiently cooled by rapid loss of moisture to the surrounding medium, while with the temperatures not nearly so high but with high relative humidity, the temperature (wet bulb reading) above which the organism must rise to lose heat to the surrounding air is such that great injury may be done.

In a disease which is either so acutely fatal or in which the imminent danger is soon past, it is not difficult to see why that which actually occurs just at the time of the injury has escaped notice. In 1863, H. C. Wood[13] observed that the blood of patients suffering major heat-stroke was of "acid reaction." The other information which has been obtained in the past from study of the patient actually suffering heat injury has taught us little with reference to the acute condition. The observations that have been reported are apparently the later result of the early injury. Gradwohl and Schisler[14] noted the parallelism between the urine and blood chemical reactions in heat cases and those of renal insufficiency. Myers and Lough[15] considered that retention of creatinine signified a grave prognosis (5 mg. per hundred cubic centimeters of blood). Gauss and Myer[16] observed numerous hyaline and granular casts in the urine on the second day. According to these observers, the total and differential blood counts are not remarkable. The white blood corpuscles ranged from 11,000 to 15,000. Dopter[17] states that there is a moderate increase in the number of cells in the spinal fluid. Many observers have studied the spinal fluid, among whom Hulbé and Pigache,[18] and Dufour[19] may be mentioned. The results agree in that the spinal fluid shows nothing remarkable.

That animals, especially the dog, horse and cow, are quite as susceptible to heat injury as is man has long been known and is well recognized by veterinary authorities.[20] However, the experimental production and study of heat-stroke in animals presented certain inherent difficulties. First, the ideal animals for such an experiment, horse or monkey, were, for us, out of the question. The dog is the only animal that is large enough to furnish sufficient blood to admit of the studies which were necessary without obscuring the clinical and pathologic changes by the loss of so large a quantity. The dog does not cool itself, as does man, by the evaporation of perspiration from the body surface, but, by panting, loses moisture from the mouth, tongue and throat. It would appear that this animal, having only this relatively limited area with which to cool the body, might be even more susceptible to heat injury than man. With this difference in cooling mechanism in mind and for the reasons stated, we chose the dog as our experimental animal. Our object was to produce experimental heat-stroke in dogs, and to study the essential pathologic change in the blood by chemical means. Autopsies were performed on a number of the animals, and the tissue changes observed.

A chamber for the production of experimental heat-stroke was constructed of pine lumber 1 inch in thickness, enclosing a radiator as a source of heat and insulated with asbestos and cardboard. In one end of the chamber, a glass door was made large enough to admit and remove the animal without difficulty. The door was large enough, therefore, to permit the animal to be observed during the experiment. An electric fan was placed in the chamber, opposite the animal. In the direct blast of the fan on the opposite side of the chamber were the thermometers (wet and dry bulb). The thermometers projected into the chamber through holes in the wall so that the bulbs were in the chamber and the temperature could be read on the outside.

In the chamber, as described, there was sufficient room to accommodate the animal during the experiment. The electric fan kept the air in constant motion, making "wet bulb" thermometer readings possible. The electric light facilitated constant observation. In order to produce the necessary humidity, a wet woolen blanket was spread over the radiator at the beginning of the experiment, and kept wet by a constant drip. Such an arrangement as this produced heat-stroke with great regularity; the appearance time of symptoms was, in general, proportional to the wet bulb reading. In some of the animals, individual susceptibility appeared to be a factor in the time of inception of heat-stroke.

The animals, at first, appeared comfortable, except for increased respiration. The premonitory symptoms of heat-stroke, if any, were a slowing and increased depth of respiration, restlessness, swelling and congestion of the eyes, and weakness of the legs. Occasionally, the first symptom was thirst. Several animals showed a generalized convulsive seizure. One of the animals showed tonic convulsive spasm of the legs (heat cramps?). All the animals showed loss of sphincter control and one a change in temperament. Severe diarrhea was noted for the first three or four hours in the animals which did not succumb early. The respiration became less frequent and, in those that died, very shallow before death. The rectal temperatures before the experiment varied from 102 to 103 F.; after the experiment, from 106 to 113.9 F.

The majority of our animals reacted following exposure with a typical "heat exhaustion" syndrome in that their temperature, which was very high (from 106 to 113.4 F.) following exposure, fell rapidly to a subnormal level, and rose only slowly during the next day in those that lived and then remained at the normal level. One animal (dog 7), which died five minutes after removal from the heat chamber and whose rectal temperature at that time was 109.4 F., had a rectal temperature at the time of postmortem examination (five minutes after death) of 113.9 F. This reaction is suggestive of a thermic fever syndrome. Another animal (dog 8) had a rectal temperature of 107.4 F. after exposure; fifteen minutes later, with the animal in a room temperature of 70 F., the rectal temperature had risen to 113.4 F. The temperature gradually fell to 100.4 F. within six hours after exposure, and the animal died twelve hours later. This reaction appeared typical of thermic fever.

Apropos of the common origin of the two types of symptom complexes, namely, thermic fever and heat exhaustion, the report of heat injuries on the U. S. S. *Kentucky* as given in the fleet surgeon's report[21] in August, 1918, is important. Dr. W. A. Bloedorn stated that following an accident to the draft ventilation of the fire room at the end of a full power run about twenty men and officers succumbed to the intense heat. Of this number there were about fifteen who had a subnormal temperature, cold, clammy skin, weak pulse —heat exhaustion—while about five had hyperpyrexia (up to 105 F.) and were delirious—thermic fever or sunstroke.

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TABLE 1.—*Experimental Heat-Stroke in Dogs*

	Before										After										
Dog	Nonprotein Nitrogen	Urea N	Uric Acid	Creatinine	Sugar	Chlorides	Plasma CO_2	Lactic Acid	Serum p_H	Miscellaneous	Nonprotein Nitrogen	Urea N	Uric Acid	Creatinine	Sugar	Chlorides	Plasma CO_2	Lactic Acid	Serum p_H	Miscellaneous	Comment
1	60	25	0	1.1	107	460	52	21 2	....	Phos. 4 0 Total N, 2 5 Gm	61	37.5	0	1.3	180	530	21 1	88 5	....	Phos 4 0 Total N, 2.3 Gm	40 min exposure; temp D B 138 F., W.B 104 to 111 2 F; lived 12 hours; rectal temp before 103 F after 111 5 F., 3 hours after 89.6 F
2	41	24	0	1.2	110	...	31.5	53 1	....	....	75	28 5	0		210	...	10 7	191 7	...	....	75 min. exposure; temp D B 135 F, W.B 97 to 104 F, lived 5 minutes, rectal temp before 102 F, after 110 F
3	26	17	0	1.5	88	460	51.9	26 6	...	Total N, 2 08 Gm.	45	23	0	1 7	115	510	20 6	135 3	...	Total N, 2 68 Gm; O_2 combining power of Hb normal	22 min exposure; convulsions; temp D B 1[illegible] F, W B 100 to 107 F; rectal temp. before 104 F, after 111.5 F; fits of anger, convulsions; skin petechiae; death in 23 hours
4	35	16	0	1.1	93	495	....	35.4	7.35	....	47	20	0	1 6	90	530	28 3	119	6 97	. .	Exposure 25 min to temp D B 131 to 136 F W B 101 to 106 F; rectal temp before 103 F., after 109 F.
5	35	15	0	1.3	100	400	51.1	35.4	7.5	....	45	23	..	.	115	510	27 7	80	7 27		Exposure 35 min. to a temp of D B 131 F., W B 100 to 104 F; rectal temp before 102 5 F., after 106 F, 34 min after 102 F, 84 min after 101 4 F, complete recovery in 2 days
6	23	19	..	1.3	110	480	55 7	27.5	7.35	....	45	23	0	2.0	128	460	21 4	106	7 1		Exposure 32 min to a temp of D B 138 2 F, W B 1[illegible] to 109 F; rectal temp before 102 5 F, after 107 7 F, temp. dropped in [illegible] hours to 97.5 F
24 hours after exposure										....	99	45	0	1.9	107	...	40	2	.	.	Day following: very weak, listless, anorexia, gavage of glucose and $NaHCO_3$; recovery apparently complete in 3 days
7	56	25	..	1.5	92	430	55 9	28.3	7.42	....	64	25	0	1 5	109	430	25 5	106	7 25	....	Exposure 30 min to a temp of D B. 140 F, W B. 111 2 F, rectal temp before 102 4 F, after 109 4 F, died 5 min; temp 5 min post mortem 112 9 F
8	20	15	..	1.4	100	480	57.9	26.5	7.35	Ca, 11.7 P, 4 2	41	23	0	..	162	...	22.1	112	7 21	Ca, 13 7 P, 3 4	Exposure 30 min to a temp of D B 1[illegible] to 1[illegible] F, W B 102 to 115 F rectal temp after 107 4 F 15 min after 110 4 F., 6 hrs after 100 4 F, lived 1[illegible] hrs
9*	91	90	0	1.4	107	510	67.2	26 5	7 35	Ca, 12.9 P, 4 2	101	99	Tr	1.9	158	480	21.4	160	7 18	Ca, 13 9 P, 3 1	Exposure to a temp of D B 136 to 140 F, W B 106 to 113 F; rectal temp before 102 F, after 11[illegible].4 F, 22 min after 113 6 F lived 12 min
10	26	13	0	1.4	118	480	51.2	23 3	7.36	Ca, 12 2 P, 4.2	45	20	0	1 6	84	510	23 5	150	7 19	Ca, 12.2 P, 3 8	Exposure 4[illegible] min, temp D B 134 to 138 F, W B 95 to 104 F, rectal temp before 101 8 F, after 11[illegible] F, lived 15 min, temp at death 112 2 F

W.B., wet bulb; D.B., dry bulb; P, phosphorus; Ca, calcium; Tr., trace, too faint for colorimetric reading Total nitrogen results expressed in grams per 100 cc. Plasma CO_2 combining power given in per cent by volume Other results expressed as milligrams per 100 cc. C p_H estimation by colorimetric method.

* No. 9 represents dog 6 exposed after two weeks interval.

METHODS

The samples of blood were obtained from the jugular vein after the neck had been shaven and the skin cleaned with alcohol. All the blood was drawn by venipuncture under neutral liquid petrolatum. The blood for p_H determination and carbon dioxide combining power of plasma was kept protected by oil; that for the other chemical procedures was placed in flasks, lithium oxalate (1 mg. per cubic centimeter) being used as the anticoagulant. Samples of blood were obtained as a routine before and after heat-stroke. Dogs used were short haired and of medium and small size. The ages were, as nearly as could be judged, from 1 to 2 years. Estimation of the nonprotein nitrogen constituents, sugar, chlorides and lactic acid were made on the tungstic acid filtrate from blood precipitated by the method of Folin and Wu.[22] Nonprotein nitrogen, urea and creatinine were estimated by the methods under the Folin-Wu system.[23] Blood sugar was estimated by the method of Folin.[24] Uric acid was estimated by the modified method of Folin,[25] using the Folin-Trimble [26] reagent. Chlorides were estimated by the Whitehorn method.[27] Plasma carbon dioxide combining power was estimated by the method of Van Slyke and Cullen.[28] Lactic acid was estimated by the method of Ryffel, as modified by Scott and Flinn.[29] Total solids of the blood were determined by the gravimetric method, and total blood nitrogen as a measure of total proteins by the Myers [30] method. Inorganic phosphorus was estimated by Benedict's [31] method. Calcium was estimated by the method of Tisdall.[32] The hydrogen ion concentration of serum was determined by A. B. Linden and L. E. Dawson of the Department of Agriculture, Bureau of Chemistry, using a potentiometer of L. E. Dawson's design,[33] and the quinhydrone electrode.[34] Blood serum was used for the p_H determination throughout so as to avoid any interference by the action of oxalate. The blood and serum were protected from contact with the air at all times, and during the process of centrifugalizing a one-hole rubber stopper was forced down in contact with the blood and plugged with a section of glass rod as recommended by Cullen.[35] Clean, neutral glassware was used throughout.

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RESULTS

In analyzing the results obtained, as recorded in the table of averages (table 2) and in the detailed table (table 1), the most striking changes were those in lactic acid (chart 1) and in the alkali reserve as measured by the carbon dioxide combining power of plasma (chart 2). The average lactic acid in ten dogs before heat-stroke was 31.8 mg., all readings, except that in dog 2, falling between 21.2 and 35.4 mg. of lactic acid per hundred cubic centimeters of blood. The high lactic acid (53.1) and low plasma carbon dioxide combining power (31.5) found in dog 2 would indicate that the animal was not normal at the time of the experiment. The highest figure for lactic acid (194.7) and lowest level of carbon dioxide combining power (10.7) obtained were those found in the post-run specimen taken from this animal. The highest lactic acid after heat-stroke found in the other nine animals was 160 mg., and the lowest carbon dioxide combining power 20.6 (dog 3). There did not, however, appear to be an accurate correlation between the level of lactic acid and alkali reserve in the individual animals, as may be noted by reference to table 1.

Serum p_H dropped (hydrogen ion concentration increased) an average of 0.19 (seven observations). Here, too, there appeared to be no exact correlation between the change in p_H and the condition of the alkali reserve or lactic acid level. The definite swing toward the acid side noted in all the observations, as well as in the average, differentiates clearly the fall in alkali reserve from that of an acapnial process. The fact that Flynn's animals, which were exposed to high temperatures and low humidity, and whose respiratory rate was rapid over a much longer period of time, did not show a considerable fall in alkali, emphasizes this point. It may be noted that a panting dog, although it breathes rapidly to promote evaporation and cooling, breathes correspondingly less deeply and washes out less carbon dioxide, thus avoiding acapnia.

Blood sugar, as noted in the table of averages, increased 41 mg. It will be noted, however, by reference to table 1, that this was not a constant finding, and that, in a number of cases, the blood sugar was relatively unchanged, and in one case actually fell (from 118 down to 84). Note should be made that, in these experimental animals, the condition of heat-stroke was not complicated by a condition of physical exhaustion, as may be often the case in men at hard labor in whom carbohydrate store might be extensively called on for fuel needs.

Table 2.—*Experimental Heat-Stroke in Dogs: Average*

	Before	After	Increase	Decrease
Nonprotein nitrogen	42.8	57.0	15.0	....
Urea nitrogen	25.9	32.2	6.3	....
Uric acid	None	Trace (1)	Trace	....
Creatinine	1.32	1.76 (7)	0.44	....
Sugar	103	144	41	....
Chlorides	475 (9)	501 (8)	26	....
Plasma carbon dioxide combining power	52.2 (9)	22.2	....	30.3
Lactic acid	31.8 (7)	128	96.2	....
Serum p_H	7.38	7.19 (7)	....	0.19
Inorganic phosphorus	4.15 (4)	3.56 (4)	....	0.59
Calcium	12.26 (3)	13.26 (3)	1.0	....
Total nitrogen	2.28 (3)	2.188 (3)	...	0.092
Total solids	18.5 (2)	18.45 (2)	...	0.05

Plasma carbon dioxide combining power expressed in per cent by volume; total nitrogen in grams per hundred cubic centimeters; total solids in per cent; other results (except p_H) expressed in milligrams per hundred cubic centimeters. Figures in parenthesis denote the number of observations on which results are based. Except where noted otherwise, this is ten.

Nonprotein nitrogen of the blood evidenced a constant, moderate increase. This was accounted for largely by the increase in urea nitrogen. Creatinine also was, uniformly, slightly increased. In dog 6, whose blood was examined after twenty-four hours, and again after two weeks following exposure (and charted as dog 9), the later manifestations of renal injury are most clearly brought out. The fact that in but one case was uric acid present in the blood (dog 9) is significant. In the normal dog, there is no uric acid in the blood. Mann [36] has shown that, in liver injury, the hepatic function first injured is that of uric acid destruction. The animal which showed presence of blood uric acid had been given heat-stroke twice in two weeks, and, it is reasonable to suppose, was manifesting liver injury beyond the ability of hepatic reserve to compensate wholly. The injury to the renal parenchyma is probably parallel to that of the parenchymal cells of and other viscera, noted in the tissue observations.

Inorganic phosphorus fell in each case observed, the drop averaging 0.59 mg. Were the acidosis, which was present, complicated by an acid phosphate retention, inorganic phosphorus of the blood should show an increase.

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31. Benedict, S. R., and Theis, R. C.: Modification of Molybdic Method for Determination of Inorganic Phosphorus in Serum, J. Biol. Chem. **61:** 63-66 (Aug.) 1924.
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33. Dawson, L. E.: The *pH* with Quinhydrone Electrode, Sugar **28:** 211-214, 262-264, 310-312, 169-170, 1926.
34. Cullen, G. E., and Biilman, E.: The Use of the Quinhydrone Electrode for Hydrion Concentration of Serum, J. Biol. Chem. **64:** 727-738 (July) 1925.
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Calcium rose in two cases and remained constant in one, the average of three observations being a rise of 1 mg. This rise may perhaps be accounted for by a calcium mobilization by hydrogen ion increase.

Total nitrogen, as a measure of blood proteins (three observations, one not shown in table 1) showed an average fall of 0.092 Gm. per hundred cubic centimeters. Total solids (two observations, not recorded in table 1) fell 0.05 Gm. per hundred cubic centimeters or per cent. These changes in protein and total blood solids are slight and, in view of the possibility of experimental error in so small a number of observations, the safe conclusion is that no marked change in blood solids has been demonstrated.

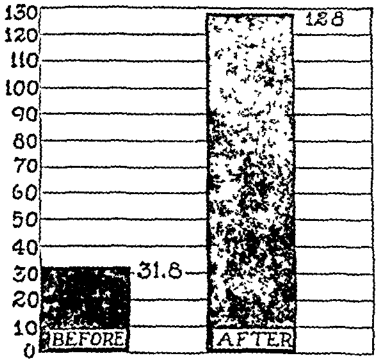

Chart 1.—Blood lactic acid in experimental heat-stroke.

Blood chlorides, calculated as sodium chloride, increased in all cases except dogs 6 and 9, in which a drop occurred. The average increase in the ten animals after heat-stroke was 26 mg. per hundred cubic centimeters.

Oxygen-combining power (two observations) remained normal. That is, hemoglobin estimation by the acid-hematin method of Newcomer[37] compared with the estimation of hemoglobin by the oxygen-combining power according to the method of Van Slyke,[38] showed no reduction by the latter method.

Specimens of urine were obtained from these animals after heat-stroke with some difficulty and in very small quantity. This apparent suppression of urine is in accordance with the clinical observations of H. C. Wood.[13] This condition is not difficult to explain when the acute degeneration, swelling and obstruction of the renal tubules are considered. Analysis of the urine showed much albumin, no sugar, and no ketone bodies (aceto-acetic acid and acetone). The absence of ketone bodies is of interest since it has been reported as an occasional finding in heat-stroke in man,[39] and a ketonic acidosis has been predicted in the condition.

PATHOLOGIC CHANGES

Gross.—Postmortem examinations were performed on a number of the animals. Some of them were examined immediately, and others from twelve to twenty-four hours after death. Nothing unusual was noted in the development of rigor mortis. The major change was rigid contraction of the left ventricle, and venous congestion of all the veins in the body, especially of the mucous membranes, lungs and liver. Except for a small amount of congestion of the meninges, there were no macroscopic changes in the brain and cord. The intestines were blanched and rigidly contracted. The stomachs were dilated and contained large quantities of fluid. The kidneys were of light color, and on section there appeared a marked cloudy swelling. The urinary bladder was often almost empty and tightly contracted. One animal (dog 3) showed petechial hemorrhages in the skin and mucous membranes. Several animals showed, in addition to pulmonary congestion, petechiae on the surface of the lungs, liver and spleen.

Microscopic (by Dr. E. E. Smith, United States Naval Medical School).—Pathologically, the tissues showed lesions consistent in type but variable in degree. In case of death early in the period of recovery, such as in experiment 2, the lesions were less conspicuous than in experiment 8, in which the animal survived the second exposure for twelve hours.

Morphologic disorganization of the parenchymatous cells was a characteristic feature of the tissues examined. This varied in degree from a fine, hardly detectable, granular degeneration to complete necrosis of both cytoplasmic and nuclear elements. There was practically no inflammatory response to this trauma except in the lungs, where edema was a striking feature, especially if death occurred late in the recovery period.

This degeneration was shown to occur in the heart, lungs, kidneys, intestines, liver, pancreas, spleen, thyroid and suprarenal; that is, in all the tissues removed for microscopic study. Of these the lungs, kidneys, liver, intestines and thyroid presented the greatest alterative changes.

Pulmonary edema was present in considerable degree in experiment 2, in which death occurred early in the recovery period. It was massive in degree in experiment 8. This edema was practically entirely interstitial in type, the alveoli being empty and constricted by pressure. The bronchial mucous membrane shared in the general parenchymatous degeneration and was covered with an extensive layer of material consisting of coagulated albumin and a few cells, chiefly necrotic epithelium.

Parenchymatous degeneration of the kidney occurred early and was extensive. It was of advanced degree in experiment 2, in which the convoluted tubules were primarily affected. In experiment 8 it was more advanced in extent and degree. In this case few lumens were patent and the glomeruli were shrunken instead of edematous as in experiment 2, while the capsules appeared distended as if under pressure.

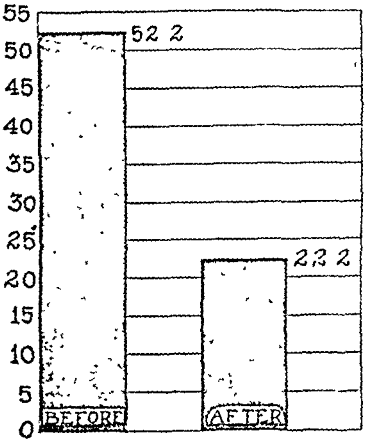

Chart 2.—Plasma carbon dioxide combining power (alkali reserve) in experimental heat-stroke.

The initial liver lesion was central and it varied in degree from a fine granular degeneration to complete necrosis. In experiment 2 it was more focal than in experiment 8. It was of milder degree than the necrosis found in acute yellow atrophy or in chloroform poisoning.

Necrosis of the epithelium was conspicuous in the intestinal tract. Sections from the colon revealed complete necrosis of the superficial layer of the mucosa, and an advanced degree of necrosis extended to the muscularis.

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[37] Newcomer, H. [illegible] of Acid Hematin, Oxyhemoglobin and Carbon [illegible] J. Biol. Chem. 37: 465-469 (March) 1919; A [illegible] for the Determination of Hemoglobin, ibid. 5[illegible]

[38] Van Slyke, D. D., and Stadie, W. C.: The Determination of the Gases of the Blood, J. Biol. Chem. 49: 1-42 (Nov.) 1921.

[39] Wilcox, W. H.: The Nature, Prevention and Treatment of Heat Hyperpyrexia, Brit. M. J. 1: 392-397 (March) 1920.

The thyroid appeared to suffer severe trauma during the recovery period. In experiment 2 it presented little alteration, while in experiment 8 there was extensive parenchymatous alteration. The majority of the acini were collapsed, and the cells were disorganized in arrangement and degenerated in structure. Some of the acini contained a pale colloid. The cells of these acini were cuboidal and showed degenerating protoplasm; many were separated from their basement membrane.

Accompanying this parenchymatous degeneration in all tissues was an acute passive congestion with deposition of blood pigment. This was of much greater degree in experiment 8, in which case it was accompanied by capillary hemorrhages.

NEUROPATHOLOGY

In brief, the neuropathology—microscopic study—by Dr. Walter Freeman, pathologist of St. Elizabeth's Hospital, was as follows: An advanced degree of parenchymatous degeneration was apparent in the brain. This degeneration was evidenced by a loss of concave outlines in the ganglion cells, a reduction of the chromatin to a hyaline, bluish staining material, a breaking up of the cytoplasm into small strands and vacuoles and, finally, a washing out of the cytoplasm. The nucleus tended to become more opaque than normal and to lose its sharp differentiation; in some instances it was displaced to the side of the cell. The nucleolus remained intact in all but the completely destroyed cells. The appearance of halos about the minute rounded glia nuclei was interpreted as swelling of the cytoplasm.

SUMMARY

Following exposure, the experimental animals reacted with the clinical syndrome of heat exhaustion as well as that of thermic fever, indicating the common etiology of these two types of reaction.

The blood chemical observations and pathologic changes in tissue following major heat-stroke showed that there was great renal injury evidenced by the progressively increasing azotemia in an instance studied twenty-four hours and two weeks after the injury. This nitrogen retention is obviously not a portion of the essential pathologic changes of the early acute condition. The uniform moderate increase in nonprotein nitrogen which occurred in the blood taken immediately following exposure is undoubtedly accounted for by rapid destruction of protein, incident to the high temperatures, increased metabolism and tissue damage. Nitrogen retention due to renal insufficiency would be impossible in so short a time.

Blood sugar increased in some cases, decreased in two instances, and remained relatively constant in others. That is to say, no significant or constant trend was noted in blood sugar level.

In most instances, blood chlorides increased. They decreased slightly in two cases, but the average showed an increase of 26 mg. per hundred cubic centimeters.

Alkali reserve, as recorded by plasma carbon dioxide combining power, decreased markedly in all instances, going as low as 10.7 per cent by volume in one case.

Lactic acid content of the blood reached very high levels following exposure, the increase averaging 96.2 mg. per hundred cubic centimeters, or an average increase of more than 300 per cent.

Serum p_H decreased (increase of acidity) in all cases in which the observation was made (seven) thus excluding an acapnial reaction in the fall of alkali reserve and emphasizing the uncompensated nature of the acidosis.

Total nitrogen and total solids determinations did not demonstrate any significant change in blood concentration.

Inorganic phosphorus of the serum was slightly decreased, and serum calcium showed an increase.

The pathologic changes were: rigid contraction of the left heart, venous congestion, contraction of the intestines and urinary bladder, dilatation of the stomach, and cloudy swelling and degeneration of the parenchymatous elements, particularly those of glandular and nervous character. There was no reaction of the connective tissue other than in the pulmonary changes noted.

CONCLUSIONS

*The important acute pathologic change in major heat-*stroke, other than that due to the effect of high temperatures per se on the tissues, is a massive increase in lactic acid, with the resulting symptoms of acidosis.

PERORAL ADMINISTRATION OF COLLOIDAL CONTRAST MEDIUM IN CHOLECYSTOGRAPHY

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CHICAGO

The substances used at present for the purpose of cholecystography are derivatives of phenolphthalein, with which they share many of its qualities. This body, a white, insoluble powder, owes its use as an indicator of free alkali to the fact that it forms brilliant red soluble salts on the addition of alkali. That it also has purgative qualities was discovered when, almost thirty years ago, the Hungarian government decreed that wine, adulterated by certain harmless additions, be earmarked by means of phenolphthalein so as to enable the poor man to buy this "necessity of life" at a price within his means. It was soon found that people partaking freely of this wine suffered from diarrhea, which led to a hasty repeal of the law and the discovery of a new purgative. Vamossy,[1] who subsequently investigated this matter, found that phenolphthalein is but little absorbed from the gastro-intestinal tract, quite devoid of toxicity, and can safely be used as a cathartic.

With the hope of possibly finding a serviceable hypodermic purgative, Abel and Rowntree[2] experimented with a number of derivatives of phenolphthalein, among them the tetra compounds with chlorine, bromine and iodine. These bodies are, like phenolphthalein, odorless and tasteless white crystalline substances, insoluble in water, and quite nonirritant when applied locally. With alkalis they form deeply colored salts (hereafter to be called "dye") that are highly irritant. This is due to the fact that they are very weak acids, even carbonic acid precipitating them, and that, when combined with a powerful base, they are strongly hydrolyzed in aqueous solution. Hence they act on tissues like solutions of caustic alkalis. When such solutions are injected subcutaneously, even though they are sterile and isotonic, necrosis of fatty tissue results. Oil suspensions of the insoluble phthaleins are better borne hypodermically but rather slowly absorbed.

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[1] Von Vamossy, Z.: Ueber ein neues Abführmittel (Purgen), Therap. d. Gegenw. **43**: 201 (May) 1902.

[2] Abel, J. J., and Rowntree, L. G.: On the Pharmacological Action of Some Phthaleins and Their Derivatives, with Special Reference to Their Behavior as Purgatives, J. Pharmacol. & Exper. Therap. **1**: 231 (Aug.) 1907.

That the phenolphthaleins have no antiseptic action is shown by the fact that luxuriant bacterial growth may be obtained on culture mediums containing them. Bile containing these bodies in abundance is not bactericidal.

When the soluble salts are taken into the stomach, they are quite irritant and usually promptly evacuated by emesis. The insoluble tetrahalogen derivatives of phenolphthalein, on the other hand, are quite well borne by the stomach, practically not absorbed, and have a purgative action like phenolphthalein.

These bodies have no effect on blood; they do not produce hemolysis nor do they cause changes in coagulability when injected intravenously suspended in serum. It is evident that excessive quantities of the soluble salts added to blood will have the effect of free alkali.

Animal experiments have shown that the arterial blood pressure is lowered only when these drugs are injected into the blood stream with undue rapidity, and even in that case the fall is of the most transient character. A slight rise of arterial pressure is caused by the presence of large quantities of the drugs in the vascular system.

In human beings, slow intravenous injection of the soluble salt generally does not produce any effect on the circulation. The blood pressure remains practically unchanged; and absence of effect on the heart has been demonstrated by Reid and Kenway[3] by means of the electrocardiograph. Not infrequently "reactions," sometimes of most alarming nature, are experienced, consisting most commonly of a feeling of nausea, usually unattended by vomiting. Less commonly there occurs vasomotor collapse of various degrees of severity, with pallor, palpitation, prostration and perspiration, which may be preceded by extreme redness of the skin. These effects are erratic in their occurrence, probably akin to those liable to follow any intravenous injection, and possibly due to what the French call a "colloidoclastic" crisis. This is also suggested by the fact that epinephrine seems to be of analeptic value in these as in other similar reactions.

Abel and Rowntree[2] found that, while in the system, these phthaleins exert no demonstrable action; nor do they produce, after repeated injections, evident degenerative changes, even in the liver, which seems to have most to do with the elimination of these bodies.

More recently, Ottenberg and Abramson[4] have shown experimentally in animals that these bodies are capable of producing lesions in the liver; but the doses required are from four to six times larger per kilogram of body weight than the doses used for cholecystography in man.

In the course of their study with these phthalein derivatives, Abel and Rowntree[2] discovered the remarkable fact that the only channel for the excretion of the tetrahalogen derivatives is the bile, the amount that passes into the intestine in other secretions, into the urine, or into the milk being so minute that it cannot be detected. In this respect these compounds differ markedly from phenolphthalein, which is excreted to a considerable extent by the kidneys. These investigators also discovered that a single subcutaneous injection of tetrachlorphenolphthalein (0.4 Gm.) dissolved in oil (20 cc.) acted as a laxative for as long as four or five days. This they explained by the observation that it is reabsorbed, from its solution in bile, by the large intestine, as can be shown by the red coloration the mucosa of the colon assumes when treated with alkali. This reaction cannot be obtained in the mucosa of the small intestine. That portion of the drug which is absorbed by the large intestine is again excreted by the liver, and again absorbed in large part by the mucosa of the colon, with a repetition of this cycle as long as the drug remains in the system. From four to five days after subcutaneous injection it may still be detected in the feces. Its low solubility in oil, necessitating a large bulky injection, stands in the way of the general adoption of this as a hypodermic cathartic.

Because of its specific elimination by the liver, tetrachlorphenolphthalein was proposed by Rowntree as a liver function test, and its value studied clinically by him and collaborators[5] and experimentally by Whipple, Peightal and Clark,[6] with results that established the almost complete elimination of this substance by the liver in normal human beings, and its delay in cases of diffuse liver disease.

This work of Abel and Rowntree offered the suggestion to Graham and Cole that the gallbladder might possibly be rendered opaque to the roentgen rays by the bile containing some such dye. The chlorine derivatives having been found unsatisfactory, and, as opacity to the roentgen rays is proportional to the atomic weight, they tried the bromine and iodine derivatives, because bromine is more than twice as heavy as chlorine, and iodine almost four times as heavy. The iodine derivative was at first found too toxic and unstable, and the bromine derivative was advocated by Graham and his collaborators.[7] Improved methods of manufacture and preservation have, however, established the iodine derivative as superior[8] because efficient in smaller dose. The mere elimination of the dye by the bile is not sufficiently satisfactory for visualization of the gallbladder. It is because this organ is not only a storage place for bile but also capable of concentrating it that it becomes sufficiently opaque to cast a fairly dense shadow.

Copher[9] has shown that the halogen in the bile is concentrated from two to four times by the gallbladder. To permit this concentration to occur, it is necessary for the bile to remain in the gallbladder for quite a number of hours. Therefore this viscus must be kept from emptying itself, which may be accomplished by not permitting any food to enter the stomach until after satisfactory pictures have been obtained, which is generally within from twelve to sixteen hours. Indeed, the prompt disappearance of the shadow after a meal rich in fat is one of the criteria of a normally functionating gallbladder; namely, its emptying power. So is the diminution in size of the shadow and its increasing density during the time the dye remains in the gallbladder, which shows that the concentrating power is still there, a function lost in cholecystitis.

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[3] Reid, W. D., and Kenway, Florence L.: The Action of Tetraiodophenolphthalein on the Heart, J. A. M. A. **88**: 540 (Feb. 19) 1927.

[4] Ottenberg, Reuben; and Abramson, H. A. Production of Liver Necrosis by Tetrachlorphenolphthalein and Tetrabromphenolphthalein, J. A. M. A. **84**: 800 (March 14) 1925.

[5] Rowntree, L. G.; Hurwitz, S. H., and Bloomfield, A. L. An Experimental and Clinical Study of the Value of Phenoltetrachlorphthalein as a Test for Hepatic Function, Bull. Johns Hopkins Hosp. **24**: 327 (Nov.) 1913.

[6] Whipple, G. H.; Peightal, T. C., and Clark, A. H. Tests for Hepatic Function and Disease Under Experimental Conditions Phenol tetrachlorphthalein, Bull. Johns Hopkins Hosp. **24**: 343 (Nov.) 1913.

[7] Graham, E. A., and Cole, W. H. Roentgenologic Examination of the Gallbladder Preliminary Report of a New Method Utilizing the Intravenous Injection of [illegible] J. A. M. A. **82**: 613 (Feb. 23) 1924. Grahar [illegible] and Copher, G. H. Visualization of the Gall [illegible] of Tetrabromphenol phthalein, ibid. **82**: 1777 (May 31) 1924, Roentgenological Visualization of the Gallbladder by the Intravenous Injection of Tetrabromphenol phthalein, Ann. Surg. **80**: 473 (Sept.) 1924.

[8] Whitaker, L. R., and Milliken, G. A Comparison of Sodium Tetrabromphenolphthalein with Sodium [illegible] in Gallbladder Radiography, Surg. Gynec. Obst. [illegible] raham, E. A.; Cole, W. H., and Copher, G. H. [illegible] Use of Sodium [illegible] 8) 1925 [illegible] Appearance and Disappearance [illegible] lay 23) 1925

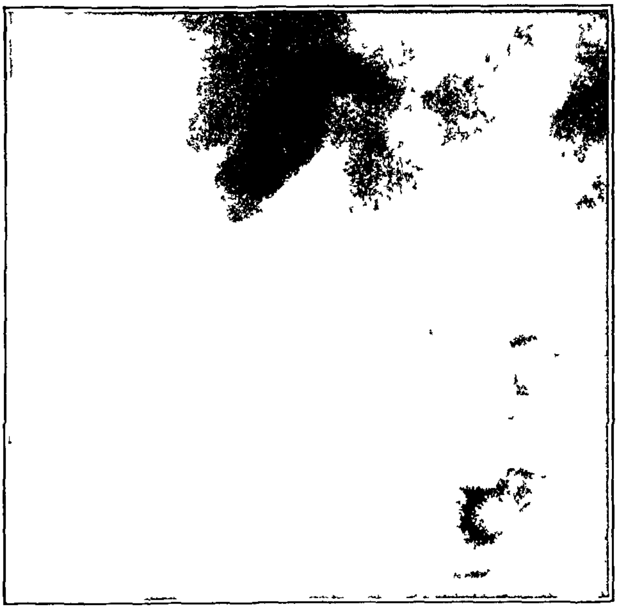
Fig 1—Appearance twelve hours after peroral administration of solution of tetraiodophenolphthalein to man, aged 47 Shadow in hepatic flexure of colon shows presence of excess of dye

The intravenous injection advocated by Graham presents the disadvantages of pain and troublesomeness of administration; of disagreeable reactions, such as headache, dizziness, nausea or vomiting; weakness; diarrhea; pain in the back or abdomen; chills, and "smothering" or "nervousness" in from one third to two thirds of all administrations.

There is a liability to venous thrombosis, as well as to necrosis of the skin overlying the vein on paravenous injection. One death followed the intravenous administration of 5.5 Gm. in one dose, almost twice the dose recommended. Giving the dose in two injections instead of one is advocated, to make the procedure safer and less liable to undesirable reactions.

Of late Graham and his collaborators[10] are using the sodium salt of phenoltetraiodophthalein, an isomer of tetraiodophenolphthalein, by intravenous injection for cholecystography. They obtained satisfactory shadows of the gallbladder with smaller doses (2.5 Gm. for adults) and have had fewer (35 per cent) and less severe toxic reactions. This substance seems to be more rapidly secreted by the liver. Excellent shadows of the gallbladder may be obtained four hours after injection, so that the time necessary for a cholecystographic examination can be shortened. They also find that this salt stains the serum sufficiently after alkalization to permit quantitative estimation, thus making it possible to perform a liver function test in addition to a cholecystography.

ENTERIC ADMINISTRATION

Peroral administration, which would be quite advantageous from a clinical standpoint, presents considerable difficulty. The dye is changed by the acid of the stomach into a white, sticky mass, quite difficult of solution, therefore inert as far as obtaining shadows of the gallbladder is concerned, and yet having quite a tendency to cause nausea and vomiting.

Menees and Robinson,[11] Stewart and Ryan[12] and others attempted to solve the problem by enteric administration, even to the extent of introduction directly into the intestine by means of a duodenal tube. Rectal injection has also been resorted to[13] of concentrated solution as well as the dilute solution in the form of a drip, but abandoned, even though gallbladder shadows were obtained, because it is poorly tolerated. All possible methods of enteric encapsulation have been tried: formaldehyde-hardened gelatin (Menees and Robinson), coating with phenyl salicylate (Whitaker, Milliken and Vogt[14]) and keratin coating (Stewart and Ryan).

Though none of these is entirely satisfactory, and Graham and his collaborators still cling to the intravenous injection as the method of choice, enteric encapsulation has established itself as the routine practice with many roentgenologists, who reserve intravenous administration for those cases only that do not yield unequivocal results after the giving of the capsules.

One of the difficulties of enteric encapsulation is that the capsules may open in the stomach and produce nausea and vomiting, or else that they may not disintegrate at all or promptly enough to yield the dye to

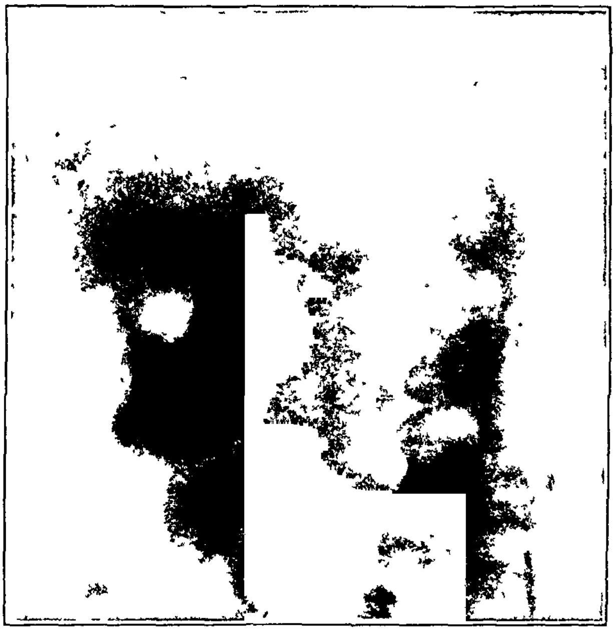
Fig 2—Appearance sixteen hours after ingestion of dye, excess of which is evident by mottled shadow in ascending colon Patient is a man, aged 39.

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[10] Graham, E A; Cole, W; Copher, G H, and Moore, Sherwood: Cholecystography The Use of Phenoltetraiodophthalein, J A M A **86:** 1899 (June 19) 1926

[11] Menees, T O, and Robinson, H C: Oral Administration of Sodium Tetrabromphenolphthalein Preliminary Report, Am J Roentgenol **13:** 368 (April) 1925, Oral Administration of Tetraiodophenolphthalein for Cholecystography, Radiology **5:** 211 (Sept) 1925

[12] Stewart, W. H, and Ryan E J The Reliability of Cholecystography by the Oral Method as Shown by an Analysis of One Hundred Consecutive Cases, Am J Roentgenol **16:** 234 (Sept) 1926

[13] Boardman, W W, and McKenzie, R B Cholecystography: Value as Diagnostic Procedure, California & Western Med **24:** 60 (Jan) 1926.

[14] Whitaker L R, Milliken, G, and Vogt, E O: The Oral Administration of Sodium Tetraiodophenolphthalein for Cholecystography, Surg. Gynec Obst **40:** 847 (June) 1925

absorption. As good gallbladder shadows are frequently obtained in spite of the fact that quite a few of the capsules have remained undissolved, it is evident that, with peroral administration, we are using an excess of dye. Menees and Robinson [11] find 2.5 Gm. a satisfactory minimum; and since perhaps half the dose is never absorbed, as shown by the shadows in the colon, gallbladder visualization must be produced by a smaller quantity of dye given perorally than when it is given intravenously. For, on peroral use, the phthalein derivative is brought directly to the liver by the portal vein without being carried all through the circulation and spread all over the body, as it is on intravenous injection. A serious objection, it seems, to enteric encapsulation is the opening up of the capsules and the possible discharging of their very irritative contents, in concentrated form, against the mucosa of the bowel with possible damage. No wonder that some patients complain of nausea, or that some are purged or have abdominal colic or backache, after the giving of the capsules. Should purging be produced to such a degree as to vitiate the result, recourse to intravenous injection may still not be necessary, if one gives a 0.06 Gm. capsule of powdered opium along with the dye capsules, repeating the dose in from two to four hours if required. It might not be altogether fanciful to imagine that these hard and insoluble capsules might be forced by peristalsis against a peptic ulcer with resulting pain and even possible perforation. In one of my patients with duodenal ulcer, these capsules did produce so severe an attack of abdominal pain that hypodermic injection of morphine and atropine became necessary.

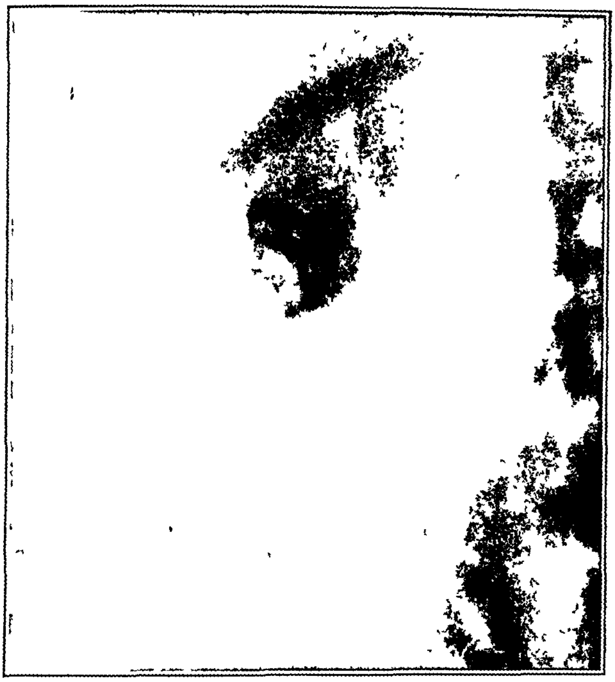

Fig. 3 —Large pale gallbladder shadow with cluster of faceted stones in fundus, twelve hours after peroral administration of solution to obese woman.

PERORAL ADMINISTRATION OF SOLUTION

For these reasons, and also because patients are occasionally encountered who cannot or will not swallow capsules, it seemed worth while to undertake experiments to determine whether the dye may possibly be given by mouth without encapsulation. The situation seemed to present two aspects: first, reduction of the alkali irritation produced by the soluble dye salt, and suppression of the emesis; and. secondly, protection of the dye against precipitation by the acid of the gastric juice. To reduce alkali irritation, the minimal effective dose had to be determined. This is below 2.5 Gm. for an adult, for giving the agent in solution is more effective than capsule administration in yielding the dye to absorption, as has been proved. Possibly the smaller dose of phenoltetraiodophthalein might be of sufficient advantage to make it preferable for oral use, in spite of its at present apparently excessive price. This dose was given in a glassful of demulcent vehicle. Milk suggested itself, for, to the extent to which its protein and its emulsified fat are attacked by the alkali, it will protect the mucosa against irritation. We must, however, get the milk out of the stomach, as the longer the milk stays in the stomach the more hydrochloric acid must be neutralized. I have tried sodium citrate (1 per cent) to prevent curdling of the milk, with but partial success. Cream and water, equal parts, is probably a better vehicle. The dose was given just before the patient went to bed for the night, after he had partaken of a very light meal four or five hours previously.

To neutralize the gastric juice is not an easy task, as is well known. I have made the attempt by giving an alkali powder composed of sodium bicarbonate, 1 Gm., and precipitated calcium carbonate, 2 Gm., in a wineglassful of water just before the dye is administered in cream and water. As the stomach has a great tendency to overcome this artificial depression of acidity, it is necessary to give alkali at intervals afterward. I have given an alkaline powder every half hour after the first one, until the patient is asleep.

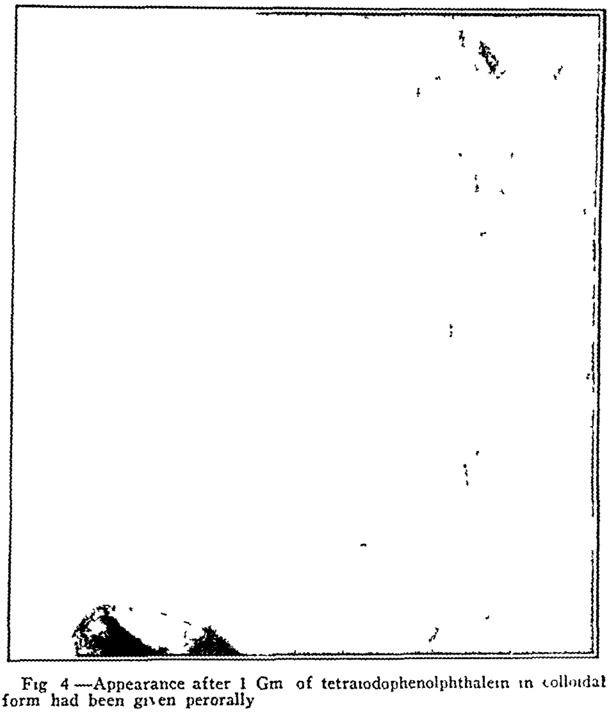

Fig 4 —Appearance after 1 Gm of tetraiodophenolphthalein in colloidal form had been given perorally

From my experience with the process, as described, I have no hesitancy in asserting that it works, as may be shown by a few of the cholecystograms (figs. 1, 2 and 3) I have obtained in this manner from twelve to sixteen hours after giving the dye. Vomiting, which occurs in a certain number of cases, was still the chief difficulty. Even when vomiting occurred, it was usually so late that the dye was sufficiently absorbed to permit gallbladder visualization. My experience justifies agreement with the statement of other students of the subject that, if the dye is retained for more than one hour and even less, the gallbladder can be visualized in all normal cases.

One reason for a high incidence of emesis in cholecystography, no matter by what method the dye is introduced, is that most of the persons subjected to this examination suffer from gastric disturbance and that quite a proportion of them are prone to nausea or vomiting even after the ingestion of ordinary foods. In cases, therefore, in which a tendency to vomiting is known to exist, it might be well to forestall emesis by administering, half an hour before the first alkaline powder, a dose of hypnotic, e. g., phenobarbital sodium, 0.3 Gm., so as to secure a night's good sleep. To forestall purging, a dose of powdered opium (0.06 Gm.) might also be given. Fortunately, it has been possible to eliminate the tendency to emesis almost entirely by administration of the agent in colloidal form.

ADMINISTRATION IN COLLOIDAL FORM

Test tube experiments show that, when sodium bicarbonate is added to the dye solution, a precipitate occurs, most of the tetraiodophenolphthalein being thrown down in the form of very fine particles. Yet this suspension gives fairly satisfactory shadows. It is therefore not necessary to attempt maintaining the dye in solution. One may indeed doubt, in view of the ease with which the dye is precipitated by carbonic acid and the abundance of this body in the system, whether the dye is not first precipitated before it becomes active, no matter in what form and by what channel it is administered. It then occurred to me that it would be worth trying to give the contrast medium in the form of a very fine precipitate, preferably colloidal, so as to secure maximum solubility in the solvent juices of the intestine. This I have accomplished by the addition of carbonated water to the dye solution, or by passing a stream of carbon dioxide through it until it is discolored. To stabilize this colloidal precipitate, a protective colloid is desirable, which not only keeps the fine precipitate in suspension but also prevents its deflocculation in coarse, curdy form by such influences as the gastric juice. A very dilute tragacanth mucilage has been found satisfactory for this purpose. This mixture looks like milk, is not offensive to the taste, and is sufficiently well borne by the stomach not to cause emesis. This colloidal contrast medium can, no doubt, be elaborated in solid form by a process analogous to the one by which the colloidal silver preparations are produced, and might then be given in ordinary gelatin capsules without the liability to gastric or intestinal irritation inherent in the soluble dye.

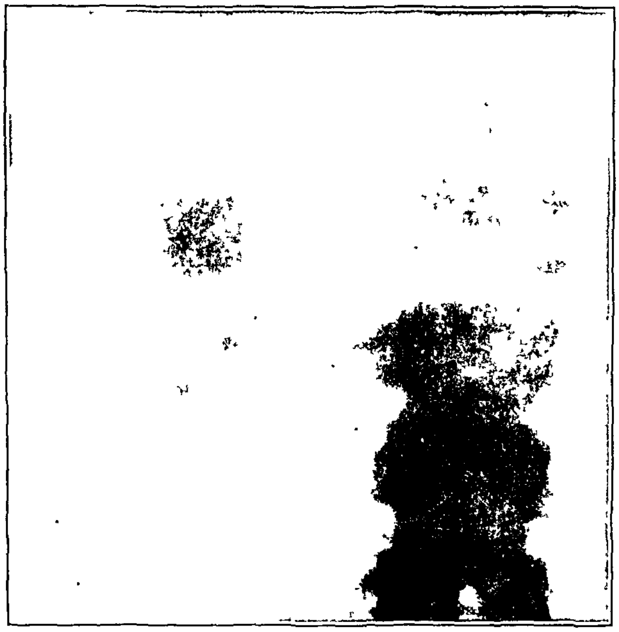

Fig 5.—Shadow obtained after 2 Gm of colloidal medium when 1 Gm. failed (Mrs. S).

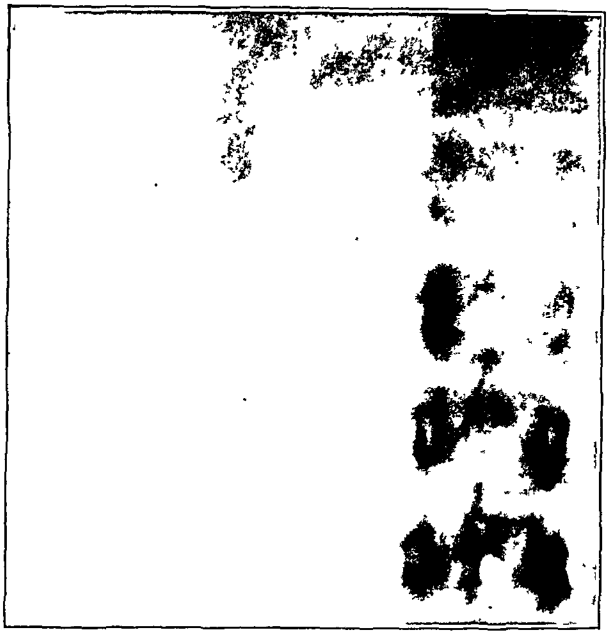

Fig 6.—Same case as figure 5 one hour after a meal, showing that gallbladder is not well emptied

That the solubility and absorbability of the agent has in this manner been increased is shown by the fact that as little as 1 Gm. of the dye gives a shadow in a normal person (fig. 4). I found, however, a case in which 1 Gm. failed to show a shadow but 2 Gm. did (fig. 5). That this is probably a pathologic gallbladder is indicated by the fact that the shadow did not disappear soon after a meal, as it normally does (fig. 6). Though 3 Gm. is as well borne as a smaller dose, it is probably not necessary to give more than 2 Gm., as I found that when 2 Gm. did not give a shadow 3 Gm. also failed.

The preparation advocated renders cholecystography very simple. The subject is advised to eat an early light supper and to take the mixture just before retiring, say at 9 or 10 o'clock. The next morning, if the person has not ingested any food in the meantime, one will in a normal individual obtain a rather faint cholecystogram, which becomes much denser by the sixteenth hour and disappears shortly after a meal. So simple is the process that it should be possible to perfect a technic by which cholecystography may be introduced as a routine into the gastro-enteric roentgenographic series, as I have recently done. By such a combination we have actually photographed the gallbladder and the bile ducts in the act of emptying into the duodenum.

What remains to be done is to study, in the first place, means of intensifying the shadow to the maximum degree possible, though the procedure as I now have it gives fairly good results. As absorption of the contrast medium probably occurs only in the proximal colon, keeping the contents of this portion of the intestine in a liquid state should be favorable. As alkali aids in the solution of the precipitate, increasing the alkalinity of the bowel might also be desirable. With these considerations in mind, I have been giving a teaspoonful of a mixture of 1 part of sodium bicarbonate and 2 parts of sodium phosphate in a cup of hot water half an hour before meals, including the last supper. Giving magnesia might be a still simpler means to the same end. Possibly the administration of bile might help solution and absorption of the agent. Phenoltetraiodophthalein might be superior to the dye I employed; but its present price is almost prohibitive.

Another problem that requires elucidation is what besides pathologic conditions of the gallbladder interfere with adequate absorption. Such, for instance, exists when the cecum and colon are packed with retained fecal matter, as in cecal stasis. Preliminary purgation, as suggested, should take care of such interference.

Even in the present state of the experiments it may be concluded that the problem of peroral cholecystography will probably be solved by the administration of the contrast medium in colloidal form.

ULTRAVIOLET RADIATION FROM SUNLIGHT AND INCANDESCENT LAMPS

ITS TRANSMISSION THROUGH WINDOW GLASS AND SUBSTITUTES *

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AND
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In a recent report on window glass substitutes, the Council on Physical Therapy of the American Medical Association[1] presented the results of investigations which "encourage the belief that there are now available materials for glazing our windows which do not possess the fault of window glass in excluding the health-giving rays of sunlight." We present here a preliminary report on experiments that were started about a year ago. Our studies were designed to cast some light on the relations between seasonal variations in ultraviolet radiation from the sun and seasonal incidences of morbidity and mortality. In addition to obtaining, under the supervision of Prof. Henry G. Gale and Prof. A. J. Dempster, daily spectroscopic records of Chicago's sunlight and records on other meteorological conditions, we have obtained some data which may be of interest to readers of The Journal at this time.

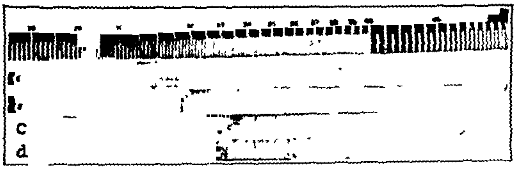

Fig. 1.—Absorption of ultraviolet rays by smoke: *a*, 11 a. m., April 10, 1927; wind nortneast; very clear. *b*, 10:30 a. m., February 19; wind northeast; very clear. *c*, 3 p. m., February 19; wind northeast; very clear, but sun seen through smoke from the stockyards district. *d*, 2:45 p. m., February 23; wind southwest; clear; sun seen through smoke. Short wave length limit: *a*, 2,995; *b*, 3,030; *c*, 3,090; *d*, 3,090.

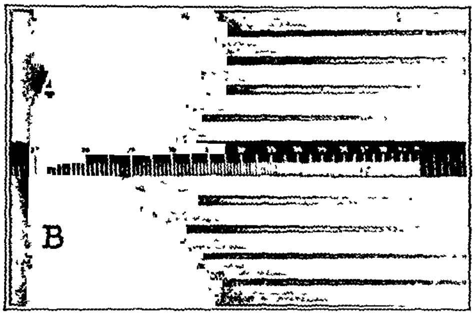

Fig. 2—Spectrums for incandescent lamps (from five to eighty second exposures); 300-watt gas-filled lamps: series A, ordinary glass bulb; series B, Vitaglass bulb.

	Exposure, Seconds	Short Wave-Length Limit		Exposure, Seconds	Short Wave-Length Limit
A	5	3,150	B	80	2,800
	10	3,090		40	2,830
	20	3,050		20	2,900
	40	3,030		10	2,930
	80	2,980		5	3,030

*Shortest Detectable Wave-Length on "All Day" Photographs of the Solar Spectrum**

Month	Day	Short Wave Length Limit in Angstrom Units
November, 1926	28	3,035
	29	3,060
	30	3,040
December	1	3,035
	2	3,035
	3	3,035
	4	3,035
	5	3,035
	6	3,090
	7	3,090
	8	3,060
	12	3,100
	13	3,060
	14	3,030
	16	3,040
	17	3,035
	18	3,035
	19	3,060
	20	3,040
	21	3,035
	22	3,035
	23	3,035
	24	3,035
	25	3,035
	26	3,035
	28	3,150
January, 1927	15	3,040
	24	3,035
	25	3,035
February	2	3,035
	11	3,020
	24	3,025
March	3	3,015
	9	3,015
	15	3,000
	28	3,015
April	10	3,000
	17	3,000
	20	3,000
	27	3,000
May	7	3,000
	12	3,000
	16	2,990

* It should be noted that the measurements presented in this table agree very closely with those given in figures 1-6 where the records apply to the same days, although the data in this table are from plates taken with a diffraction grating and the photographs reproduced in the illustrations were taken with a quartz spectrograph.

In June, 1926, experiments were begun to arrange apparatus for the automatic recording of the sun's spectrum. Each day a photograph of the solar spectrum is taken on a portrait film. The photographs are calibrated by exposing them behind a uniform optical wedge for a fixed time to a light of fixed intensity. They are then developed in carefully measured solutions for a fixed time and at a fixed temperature. (The details of technic will be reported later.)

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* From the Department of Health, City of Chicago, and the University of Chicago.

[1] Report on Window Glass Substitutes, J. A. M. A. 88:1562 (May 14) 1927.

In the accompanying table we present the limits of the solar spectrum in Chicago on certain days between Nov. 28, 1926, and May 16, 1927. For the periods November 28 to December 8, December 12 to 14 and December 16 to 28, the data are for the spectrums on successive days. For the period January 15 to May 16, we present the spectrum limits for that day in each week which, judged from weather bureau reports on wind and sunshine, was the clearest. Thus, in large part the data in the table were taken from plates selected to show most favorably the extreme spectrum limits in the ultraviolet region.

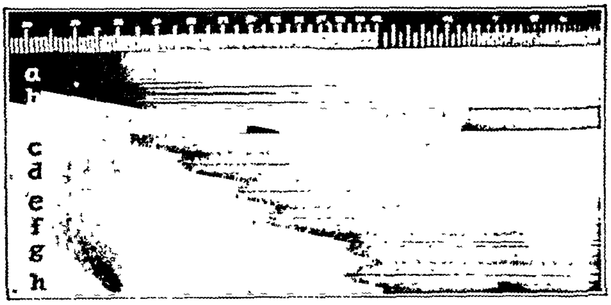

Fig. 3.—Transmission of sunlight and light from incandescent lamp through quartz and Vitaglass:

	Short Wave Length Limit
a, Sunlight through quartz: 30 seconds	2,995
b, Sunlight through Vitaglass: 30 seconds	3,010
c-h, light from 300-watt Mazda C lamp through Vitaglass	
c, 80 seconds	2,760
d, 40 seconds	2,790
e, 20 seconds	2,860
f, 10 seconds	2,960
g, 5 seconds	3,050
h, 2 seconds	3,140

From direct inspection of the original plates it is plainly evident that the solar radiation reaching Chicago in the winter months is extremely poor in the spectrum region 3,200 to 2,900 angstrom units. Under the most favorable conditions, the last detectable lines are in the region of 3,100 to 3,050 angstrom units in November, December and January and are of extremely low intensity there. In February, March and April the limits are in the region 3,040 to 3,000, and by May the limit is reduced to 2,990. These results are especially significant because of the recent observations of Hess and Weinstock.[2] These investigators report that the spectrum line at 3,020 angstrom units possesses marked antirachitic potency; the 3,130 line only very slight specific power to activate cholesterol; and lines of wave length shorter than 3,130, especially those shorter than 2,900 angstrom units exert even more potent antirachitic activating effects on cholesterol than those between 3,020 and 2,900.

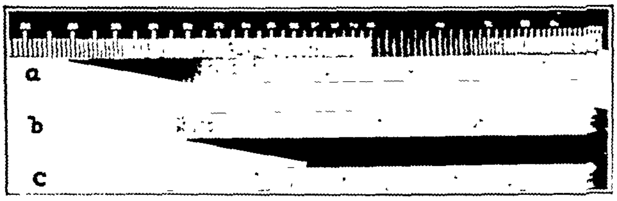

Fig. 4.—Transmission of sunlight through quartz, clear Vitaglass and laboratory window, 9:30 a. m., Feb. 19, 1927: wind northeast; very clear. *a*, clear Vitaglass, 3,090 angstrom units limit; *b*, quartz, 3,050 angstrom units limit; *c*, laboratory window, 3,300 angstrom units limit.

On a number of occasions it has been feasible to study the effects of smoke in the city's atmosphere on the solar ultraviolet radiation. In March, when Chicago's atmosphere is commonly heavily laden with smoke, we have found that the solar spectrum usually does not show any appreciable light intensity below 3,100 angstrom units. Figure 1 presents for comparison the solar spectrums on:

(*a*) A clear day, April 10, 1927, with wind northeast (from Lake Michigan).

(*b*) A clear day, Feb. 19, 1927, with wind northeast, 10:30 a. m.

(*c*) Same day as *b*, at 3 p. m., with identical sky and wind conditions except that the afternoon sunlight path to the spectrograph traversed the smoke pall arising from the stockyards manufacturing district.

(*d*) A clear day, Feb. 23, 1927, with wind southwest and a smoke haze over the city.

It will be observed in figure 1 that on a clear day in April the sun's spectrum extended down to about 3,000 angstrom units. On February 19, clear, the spectrum limit was 3,030 angstrom units. The reduction of the spectrum limits by smoke, expressed in intensity, is much greater, however, than the change of 60 angstrom units in the limits would imply.

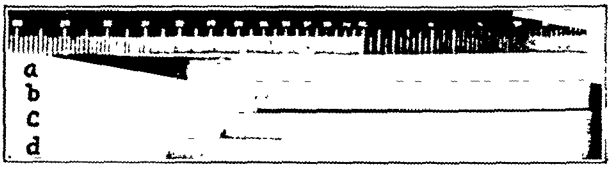

Fig. 5.—Transmission of sunlight, Feb. 19, 1927, through: *a*, quartz, 3,030 angstrom units limit; *b*, laboratory window, 3,280 angstrom units limit; *c*, thin glass, 3,230 angstrom units limit; *d*, quartz, 3,030 angstrom units limit.

Because of the comparatively feeble ultraviolet intensities in the sunlight of the winter months, it was considered important to study certain artificial sources of ultraviolet radiation. The value of the mercury vapor arc lamp is too well known to need demonstration here. But the value of ordinary incandescent lamps has not been sufficiently investigated. Figure 2 presents the spectrums (for five, ten, twenty, forty and eighty second exposures) of the radiations from 300 Watt gas-filled Mazda lamps, one (upper series) with ordinary glass bulb and the other (lower series) with a bulb of Vitaglass (Lamplough). It will be noted in figure 2 that the lamp with the ordinary glass bulb emitted ultraviolet radiation comparable to sunlight in the winter months. The Vitaglass lamp was far richer in transmitted ultraviolet rays, the eighty second exposure detecting radiations as far as the region of 2,800 to 2,900 angstrom units.

From figure 3 it is apparent that clear Vitaglass[3] transmitted the ultraviolet rays in sunlight nearly as well as quartz. Furthermore, with a Mazda C lamp (300 watts) as a source of illumination, Vitaglass (eighty second exposure) transmitted the ultraviolet rays as low as 2,760 angstrom units.

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[2] Hess, A. F., and Weinstock, Martha: The Antirachitic Activity of Monochromatic and Regional Ultraviolet Radiations, Proc. Soc. Exper. Biol. & Med. **24**: 759 (May) 1927.

[3] Sample provided by the Vitaglass Corporation, New York.

Figures 4 and 5 present some transmission spectrums for sunlight passed through quartz, clear Vitaglass, the laboratory window glass and a piece of thin window glass. The advantages of Vitaglass over ordinary glass are plainly evident in the greater ultraviolet transmission permitted by the former.

Figure 6 presents comparison spectrums for the transmission of sunlight through quartz, clear Vitaglass and a sample of M. G. Co. glass.[4] The two window glass substitutes tested here gave almost exactly the same results, both transmitting the sunlight available on the day of the test to 3,000 angstrom units.

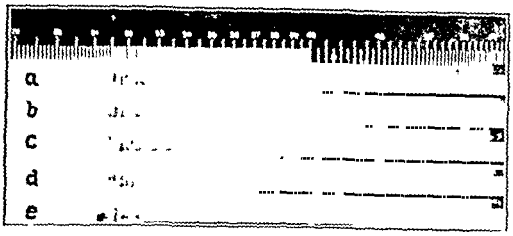

Fig. 6.—Transmission of sunlight, June 1, 1927, 3 p. m.; exposures, thirty seconds; wind, north; slit, 3.5; very clear; through: *a*, M. G. Company glass, 1.9 mm. thick, 3,000 angstrom units limit; *b*, quartz, 2,980 angstrom units limit; *c*, clear Vitaglass, 2 mm thick, 3,000 angstrom units limit (faint); *d*, M. G. Company glass, 3,000 angstrom units limit; *e*, quartz, 2,980 angstrom units limit.

SUMMARY AND CONCLUSIONS

1. *Comparatively little ultraviolet radiation of known physiologic significance appears in the sun's spectrum during the winter months in Chicago.*
2. The ultraviolet rays are absorbed to a significant degree by smoke in the atmosphere.
3. Incandescent lamps (of 300 watts) emit radiations in the ultraviolet region which are of physiologic interest.
4. Transmission spectrums for window glass and certain window glass substitutes confirm the reports of other investigators and of the Council on Physical Therapy on relative permeabilities to the ultraviolet radiations.

The relations between the seasonal variations of the solar spectrum and of morbidity and mortality will be reported later.

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[4] Sample provided by the Manufacturers' Glass Company, Chicago.

Nature of Auricular Fibrillation.—A great deal of experimental work has been done on the results of high-speed direct stimulation of the heart's auricular appendix. It is found that when the stimulation speed rises to from 300 to 500 a minute the ventricular responses are usually grossly irregular in force and rhythm. In some cases cessation of stimulation is not followed by return to normal rhythm, but the events in the heart continue exactly as if electrical stimulation were still going on. . . . The condition is known as circus movement. . . . When, however, the speed of circus movement in the auricular muscle rises to 450 a minute or thereabouts the path of the circuit is constantly changing, as is the path of the offset waves, the progress of both being constantly impeded by fibers still fatigued, and therefore refractory to stimulation. The result is an irregular circus movement, constantly changing its course, and irregular offset waves which may, or may not, succeed in traversing the whole of the auricular muscle sheet. From this it follows that the arrival of impulses at the auriculoventricular junctional tissue will be both high in speed and irregular in rhythm. The consequent ventricular responses will show a like result, and the ventricular stroke, therefore, becomes grossly irregular and of high speed. This condition constitutes auricular fibrillation.—Langley, G. J.: Nature and Treatment of Auricular Fibrillation, *Brit. M. J.*, June 11, 1927.

A RAPID AND SIMPLE METHOD OF DETERMINING NERVE INJURIES IN THE EXTREMITIES

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The late discovery of a nerve injury in a traumatized extremity, particularly when following the débridement of a wound, the adjustment of a dislocation, the setting of a fracture or the application of a splint, is a serious event in the experience of the traumatic surgeon, and certainly the burden of responsibility rests on that surgeon who only after some operative intervention on an extremity discovers the presence of a nerve injury that was not mentioned in the preoperative records. As a rule, the average surgeon feels that the examination of an extremity for a nerve injury is a process requiring considerable technical skill and neurologic knowledge, and that such an examination, to be reliable, should be made by a neurologist. While this is true in some respects, it nevertheless does not excuse the surgeon for overlooking and neglecting a nerve injury. It is commonly believed that to examine an extremity for a nerve injury, splints and dressings must be removed, thereby jeopardizing the position of fractures and risking infection of wounds. It is possible, by simple tests which may be conducted within a few seconds, to determine definitely the presence or absence of injuries to important motor nerves of the extremities when observation permits only inspection of the hand or foot, and no preoperative record of a traumatized extremity is complete without this information.

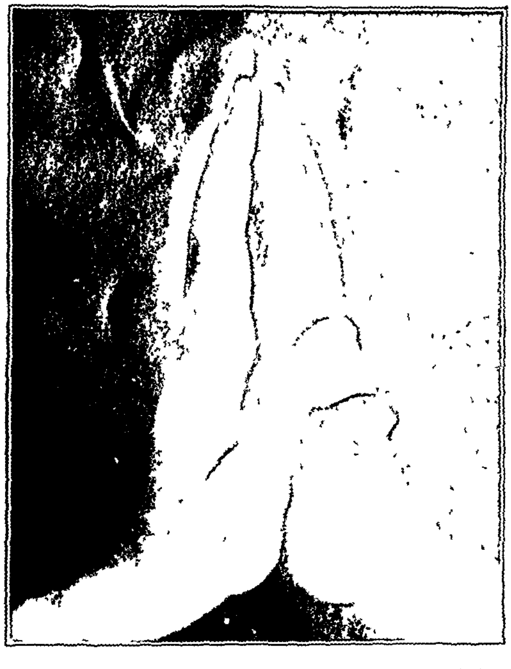

Fig. 1—Musculospiral nerve paralysis normal extension of the thumb of one hand and inability to extend the thumb of the other denoting a *musculospiral paralysis, manifest in the loss of complete thumb extension*

In my observation and treatment of more than 1,500 nerve injuries while in military service, and some 200 occurring in civil life, systematic examination has revealed that these injuries, with very rare exceptions, all involve, to some degree, even in the slightest injuries, the motor function of the fingers and toes, and that, with the exception of the upper arm type of brachial plexus lesions, an inspection of movement in the fingers and toes will reveal nerve involvement. Isolated injuries to the musculocutaneous, circumflex and anterior crural nerves are rare, and, excepting the upper arm type of brachial plexus lesions, injuries to the circumflex and musculocutaneous practically always involve either the median, ulnar or musculospiral. The upper arm type of brachial plexus lesion may be readily determined by paralysis of the deltoid, biceps or triceps—most commonly all three. Injuries to the anterior crural nerve resulting in complete loss of extension of the leg are exceedingly rare, as the nerve on leaving the abdominal cavity has divided into a number of branches, all of which are rarely involved, and in serious injuries the involvement of the adjacent femoral artery completely overshadows the nerve lesion.

An injury to the musculospiral nerve in any part of its course, even to the lowest portion of the posterior interosseus nerve, will result in loss of extension to the thumb. Therefore, inability to extend the thumb completely immediately suggests a musculospiral involvement.

With the median nerve, injury in any location will affect the opponens pollicis, making it impossible to oppose the palmar surface of the thumb to the pads of the extremity of the fingers. While it may be possible to flex the terminal phalanx of the thumb through the long extensor, or the first phalanx by action of the flexor brevis pollicis, which is partially supplied by the ulnar nerve, it is impossible to rotate the thumb over the palm.

Fig. 2.—Median nerve paralysis: five fingered cone of one hand, denoting normal median and ulnar nerve intrinsic hand muscle function; of other hand, a four fingered cone, denoting normal ulnar nerve function and median nerve paralysis, in that the thumb cannot be opposed to the center of cone—it rests on the side of the index finger.

In injuries of the ulnar nerve, the interosseus muscles are conspicuously involved, which prevents lateral movement of the fingers. Examination of the fingers will reveal the absence of these lateral movements by the inability to make the fingers into a cone; that is, bunching the ends of the fingers. Normal ulnar motor action will permit the formation of a four finger cone; normal median nerve action will permit the rotation of the thumb and the placing of its palmar surface against the tips of the ulnar cone, making a five finger cone. A patient able to make a five finger cone with the tips of his fingers does not have motor disturbance involving the median or ulnar nerve. Therefore, the test of making a five finger cone and the extension of the thumb will immediately determine the presence or absence of a musculospiral, median or ulnar nerve injury.

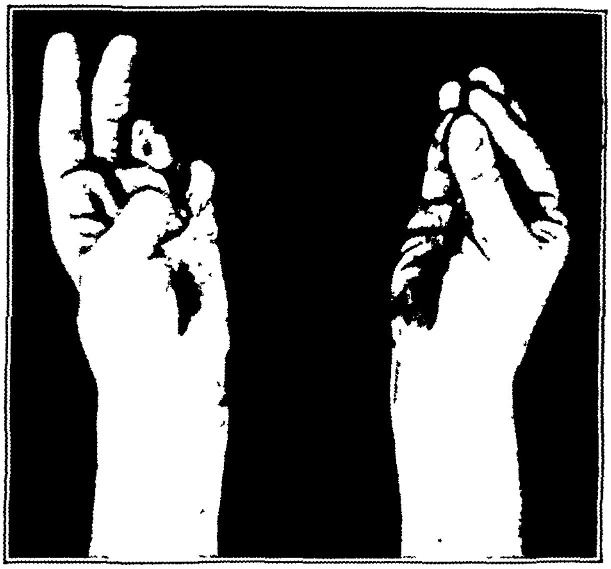

Fig. 3.—Ulnar nerve paralysis: normal five fingered cone of one hand; the other hand, unable to make a four fingered cone, shows ulnar nerve paralysis; apposition of thumb possible, demonstrating a normal median nerve.

Musculospiral injuries may be further confirmed by determining the presence of anesthesia over the dorsal surface of the base of the thumb, and also inability to elevate the wrist and extend the fingers at the metacarpophalangeal joint. If the patient can make a four finger cone, but is unable to oppose his thumb to the finger tips to make a five finger cone, he has a median nerve paralysis, which may be confirmed by determining the loss of sensation in the palmar surface of the first three fingers and by the inability to flex the index finger when the other fingers are extended. A patient who is unable to make a four fingered cone has an ulnar paralysis which may be confirmed by determining the loss of sensation in the little finger, and by testing the action of the interosseus muscles in individual lateral movements of the fingers.

In examination of the lower extremities to determine the presence of an injury to the sciatic trunk or its two terminal divisions, the tibial and peroneal nerve, it is usually sufficient to inspect movement in the toes. If the toes can be extended, one may readily conclude that the peroneal nerve and the peroneal portion of the sciatic (external popliteal) has escaped injury. If the toes can be flexed, the tibial nerve (internal popliteal) and the tibial portion of the sciatic have escaped injury. If the patient is unable to extend the toes, a peroneal injury may be confirmed by the loss of sensation in the cleft between the great and second toe—also by the loss of dorsal flexion in the foot (extension). The inability to flex the toes means an injury to the tibial nerve or the tibial portion of the sciatic, which may be confirmed by loss of sensation in the sole of the foot and the toes, and the inability to plantar flex the foot.

The simple tests of making a five fingered cone and extending the thumb, and of determining upward and downward movement of the toes and foot, will readily assist the surgeon in determining the presence or absence of important nerve injuries in the extremities, with the very rare exceptions mentioned.

In determining the presence of a nerve injury and confirming the observations by sensory tests, the surgeon may save himself considerable future embarrassment, be able to modify his prognosis accordingly, and institute proper treatment and correct splinting to prevent overstretching of paralyzed muscles.

853 Seventh Avenue.

REDUCTION OF CERVICAL DISLOCATION

REPORT OF A SUCCESSFUL CASE

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Cervical dislocations without fatal results are of more frequent occurrence than is generally thought. Because of its supposed rarity cervical dislocation has not received the attention and investigation that its importance deserves. However, the condition has been rather fully discussed by Walton [1] and Scudder,[2] and cases have been reported by Barnett,[3] Erickson,[4] Huff,[5] Langworthy,[6] Speed,[7] Wusthoff [8] and others.

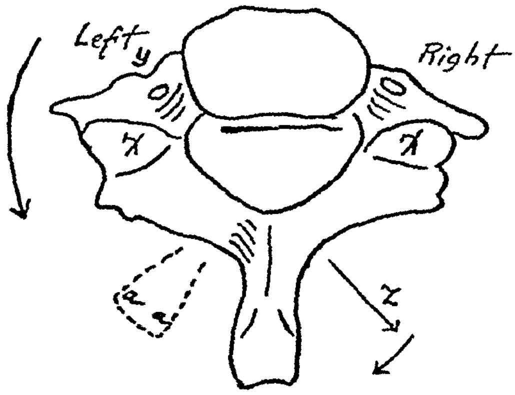

Fig. 1.—Direction of tilting and rotating in reduction (Walton).

These dislocations are produced by carrying the movements of rotation and abduction beyond their normal limits, by any force which overabducts or overrotates the upper part of the spinal column. The force may be an external one or one developed by the muscles attached to the head (Stimson).

The symptoms vary greatly from paralysis or death when there is compression of the cord, as usually occurs in bilateral dislocation, to a posture of the head simulating a torticollis, and they may even go unrecognized.

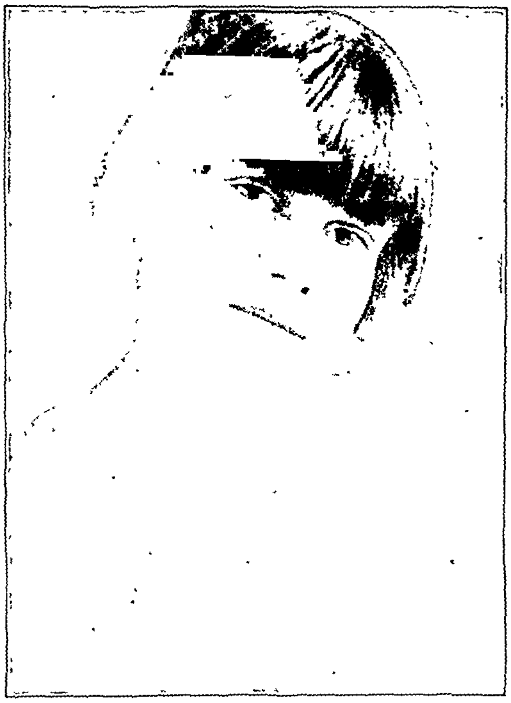

Fig. 2.—Appearance of patient before reduction.

A painful prominence can often be noticed on the dislocated side.

Even when paralysis or special pain is not present, there is usually considerable disfigurement and the relief of the condition is much desired. By the method of Walton, such relief is easily obtained when the relation of the anatomic parts involved is thoroughly understood. However, fracture sometimes occurs and should be considered before reduction is attempted.

In the complete unilateral dislocation, the articular process of one vertebra slips forward and falls down into the intervertebral notch of the vertebra below. This accident can easily happen because of the horizontal position of the articular processes (Spalteholz). The ligaments then hold the vertebra in the new position and the muscles play little part. As a result, the head is tilted to one side and twisted so as to produce a position similar to torticollis. In the new position the head is immobile; the muscles are lax on the side which would have produced the deformity and tense on the opposite side.

The essentials of Walton's plan of reduction, as worked out by him in a series of experiments on the cadaver and used clinically, are: (1) dispensing entirely with extension, and (2) using only retrolateral flexion and rotation.

The proper method is simply to raise the depressed process and rotate. This can be accomplished only by extending the head obliquely backward toward the right or left as the case may be and using the transverse process on the same side as a fulcrum. The ligaments which have held the vertebra firmly in its faulty position do not offer opposition to this movement, so that force is not required first to elevate in this way and then to rotate to the proper position. Walton, quoted by Scudder,[2] demonstrated this method as follows:

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[1] Walton, G. L.: Reduction of Cervical Dislocation: A Successful Case, Boston M. & S. J. **129**:553 (Dec. 7) 1893; A New Method of Reducing Dislocation of Cervical Vertebrae, J. Nerv. & Ment. Dis. **20**:609 (Sept.) 1893.

[2] Scudder, C. L.: The Treatment of Fractures, Philadelphia, W. B. Saunders Company, 1922.

[3] Barnett, C.: A Case of Bilateral Dislocation of the Cervical Vertebrae, with Recovery of the Patient, Fort Wayne M. J. **25**:228 (June) 1905.

[4] Erickson, N.: Fracture of the Second Cervical Vertebra with Anterior Dislocation, M. Rec. **100**:1140, 1921.

[5] Huff, O. N.: A Case of Bilateral Cervical Dislocation: Reduction and Recovery, Chicago M. Rec. **8**:350 (May) 1895.

[6] Langworthy, Mitchell: Bilateral Forward Dislocation of the Fifth Cervical Vertebra with Reduction by Manipulation, J. A. M. A. **76**:447 (Feb. 12) 1921.

[7] Speed, Kellogg: Dislocation of the Cervical Vertebrae, Ann. Surg. **66**:644 (Dec.) 1917.

[8] Wusthoff, Rudolph: Luxation Fracture of the Joint Between the Atlas and Axis, Deutsche Ztschr. f. Chir. **183**:73, 1923.

> The diagram [fig. 1] shows the upper surface of the lower of the two vertebrae concerned, that is, the one in normal position. The articular processes of this vertebra are marked *x, x*. The *left* articular process of the vertebra above having slipped into the intervertebral notch *y*, the situation of its spinous process will be indicated by the dotted lines *a, a*. The direction in which the head must be tilted for reduction is indicated by the line *z* (in other words, if the patient is facing the north the head must be tilted southeast). Slight rotation in the direction of the short curved arrow on the right of the diagram may be necessary to free the process. After the articular process is freed, rotation into place in the direction of the long curved arrow on the left of the diagram will complete reduction. In case the *right* articular process has been displaced by the dislocation, these movements should be reversed.

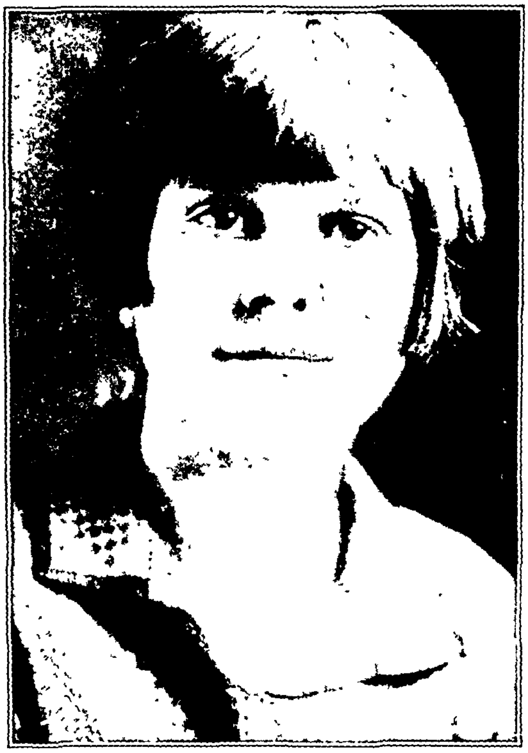

Fig. 3.—Appearance after reduction.

The patient should be thoroughly anesthetized (nitrous oxide), and should be in the sitting position. This gives freedom of movement and prevents confusion of the proper movements of reduction.

REPORT OF CASE

M. H., a girl, aged 12, brought to St. Elizabeth Hospital, Appleton, Wis., Nov. 10, 1926, had been forcibly thrown from an automobile when the auto was hit by an interurban car. She was picked up in an unconscious condition and remained so for eighteen or twenty hours after entrance into the hospital. When she regained consciousness she complained of some headache, stiffness and pain in the neck, and inability to turn her head. Her past and family history were entirely negative.

On examination it was noted that the head was turned to the left; the face was also bent toward the left side, and she held the neck and head in a rigid manner (fig. 2).

There was a tender, palpable, firm mass on the left side of the neck just below the hair line. The patient was unable to turn her head except to a very limited degree and then to the left only, and she complained of pain and discomfort in the neck when an attempt was made to turn her head.

There were minor abrasions and contusions of the face, left eye and left shoulder.

The superficial and deep reflexes were normal and there were no sensory disturbances.

Roentgenograms revealed a displacement forward and to the right of the atlas and axis on the third cervical vertebra, and there was distinct angulation between the third and the second and first cervical vertebrae in the anteroposterior direction. There was only a slight narrowing of the neural canal, but no evidence of fracture. However, there was a fracture without separation of the inner extremity of the right zygomatic arch.

November 20, under nitrous oxide-oxygen anesthesia, the dislocation was reduced by the method of Walton and a light plaster cast applied to the shoulders, neck and head. The patient was put in bed flat on her back but the next morning it was observed that the dislocation had recurred. Two days later it was again reduced, and a snug plaster collar about 3 inches wide was put around the neck and over this a fairly heavy cast which included the shoulders, neck and head was applied. The patient was kept in bed for one week, and then sent home. Four weeks after reduction the cast was removed, and she was able to move the head in all directions. Five months later the patient is well, and there is no deformity (fig. 3) or limitation of motion.

PRELIMINARY DIVERTICULOSTOMY IN DIVERTICULUM OF BLADDER

UNUSUAL CASE AND METHOD OF OPERATION

DAVID M. DAVIS, M.D.
ROCHESTER, N. Y.

Diverticulum of the bladder is fascinating from a surgical standpoint, and the problems to which it gives rise are of never ending complexity. The case reported here will illustrate the surprises it may hold in store for the surgeon:

REPORT OF CASE

H. A., aged 73, a widower, seen at the Park Avenue Hospital at the request of Dr. Alvah S. Miller, Oct. 21, 1925, had always been well and strong, not having had illness during his life until about five or six years before, when he noticed slight difficulty in starting the urinary stream and slight frequency of urination. The difficulty increased. The frequency never became very pronounced. During this period the general health became impaired; the bowels became very constipated and the mind less clear.

Five weeks before, while away on a vacation, the patient was found lying on the floor in convulsions and foaming at the mouth. After being in bed for some days, while still unconscious, he was brought back to Rochester. At that time the blood nonprotein nitrogen was very high—in the neighborhood of 200. The treatment was by rest in bed, bland diet, and forcing of fluids. The patient gradually improved for a period of a month, at which time he was out of bed part of the time and the mind comparatively clear. At this point, however, improvement ceased. When first seen the patient was voiding four or five times during the day and six or seven times at night. Urination was difficult and painful. The blood nonprotein nitrogen was 32; creatinine, 1.5. The urine contained pus and in the preceding two days there had been slight fever, rising to 101 F. There had never been any urethral instrumentation. The patient suffered from insomnia and mental depression and was very constipated.

Examination showed the patient to be well nourished, with skin and mucous membranes of good color. The tongue and lips were dry. The pulse was regular, and of good force and rhythm. No mass or tenderness existed in either kidney region. The abdomen was normal except for an area of flatness extending four finger-breadths above the symphysis and within an inch of the umbilicus. Pressure over this region was slightly painful. The external genitalia were normal. Rectal examination showed a markedly enlarged prostate, which was smooth, round, elastic and not adherent. The seminal vesicles were slightly corded, but otherwise normal. There was moderate edema of the ankles. Urinary obstruction, due to an enlarged prostate, was present, and in spite of the rather surprising fact that the blood nitrogen had returned to normal while the obstruction was still unrelieved, it was felt that drainage of the distended bladder was necessary. Efforts to introduce a catheter were unsuccessful, all types being arrested in the prostatic urethra.

October 22, under gas and oxygen anesthesia, a median suprapubic incision was made, exposing a markedly distended organ which was thought to be the bladder. Incision allowed a quantity of urine to flow out, and a large mushroom catheter was put in place. It was noted at the time that the wall of the bladder seemed extremely thin. No intravesical palpation was attempted, the patient's condition being considered precarious. The bladder capacity was 750 cc. Following the operation the patient did very well and showed marked improvement. The systolic blood pressure, which before the operation had been 180, fell to 150.

November 9, a cystoscope was inserted through the suprapubic fistula, showing what appeared to be the interior of the bladder. The walls were everywhere smooth and pale, and a good sized calculus was seen. In the right lateral wall of this cavity was a large diverticular orifice. The base of the bladder did not show any of the usual landmarks, and it was impossible to locate ureters, trigon, urethral orifice or prostate. The area where they should have appeared was occupied by a smooth, round convexity. The cystoscope was then passed through the diverticular orifice. More stones were seen within the second cavity, and the mucous membrane lining it was much rougher and more reddened. It was impossible to explore the more distant parts of this cavity. November 19, in order to estimate the size and location of the diverticulum, a cystogram was taken, 250 cc. of 5 per cent sodium iodide being introduced through the drainage tube. A plain roentgenogram had shown several good sized stones lying in the bladder region (fig. 1). The cystogram (fig. 2) showed the drainage tube leading into a large, pear-shaped cavity, with very clear regular outlines, situated in the left half of the pelvis. This communicated, by a narrow passage, with another cavity of about the same size, pushed over into the right half of the pelvis, which by its irregular outlines was identified as a trabeculated bladder. In the lower portion of this shadow was a filling defect, apparently due to a large intravesical prostatic lobe. It now became evident that at the time of operation the large diverticulum had pushed up in front of the bladder and that the drainage tube had been placed in the diverticulum and not in the bladder at all. When the cystoscope had been passed through the diverticular orifice it had gone, not into the diverticulum, as was thought at the time, but into the bladder proper.

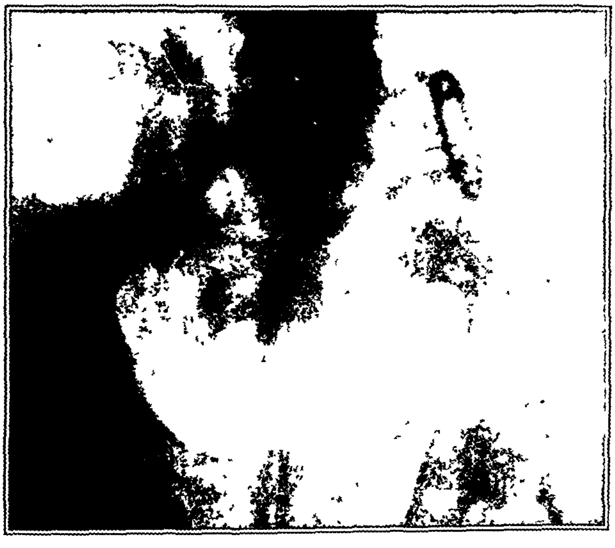

Fig. 1.—Appearance after diverticulostomy, showing drainage tube in diverticulum, deflected to left The three stones to the left are in the diverticulum; the two to the right in the bladder

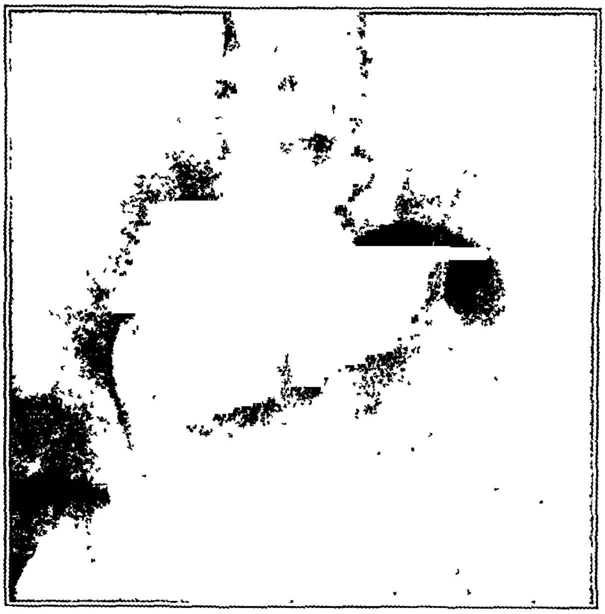

Fig. 2.—Cystogram made by introducing 250 cc of 5 per cent sodium iodide solution through drainage tube The diverticulum has contracted after drainage and now occupies the left side of the pelvis It is pear-shaped and perfectly smooth in outline, and is connected with the bladder by a moderate sized opening The bladder, which is pushed to the right, is markedly trabeculated In its lower portion is a filling defect due to the large intravesical median lobe The outline of the extravesical portion of the prostate is shown below, apparently by a thin layer of calcification about its periphery

December 9, six days after the patient had received a transfusion of 800 cc. of citrated blood, which had a very beneficial effect on his general condition, operation was performed, with the idea of removing the diverticulum and the stones, and then, if the patient's condition permitted, of enucleating the prostate.

Under ethylene anesthesia, a median suprapubic incision was made, encircling the fistula. The fistula was then dilated sufficiently to admit Young's prostatic tractor, which was opened out within the diverticulum. Pulling the diverticulum upward with this instrument, the dissection was rapidly and easily carried downward on each side of, and below, the fistula, freeing the diverticulum laterally and from the posterior surface of the symphysis. Attention was then turned to the upper aspect of the fistula, where, by dissecting on the tractor within the diverticulum, it was easily possible to separate the reflection of the peritoneum, which came very close to the fistula (fig. 3). As soon as the reflection was found, a good line of cleavage appeared which enabled the peritoneum to be pushed back without injury. Still pulling the diverticulum upward with the tractor, one found the remainder of the process of freeing it down to its attachment with the bladder very easy and rapid. When this point was reached it was split, the edges were seized with clamps, and it was then cut off flush with the bladder. With it were removed three large calculi. The opening into the bladder was then enlarged downward, and two more large calculi were removed from the bladder proper Palpation showed a single, large, intravesical median lobe without any intravesical lateral enlargement. At this time the patient's pulse was 84 and of good quality, and the general condition excellent. It was therefore determined to proceed with the removal of the prostate, which was done in the usual manner, the median lobe and two extravesical lateral lobes being enucleated. A Hagner bag was drawn into the prostatic cavity, arresting all hemorrhage, and the bladder incision was then closed about a large fenestrated drainage tube. A good sized rubber drain and a small gauze pack were then placed in the cavity left by the removal of the diverticulum, and the abdominal wall was closed in the usual manner. At the end of the operation the patient was slightly pale, but the pulse was only 90; 2,000 cc. of salt solution was given subcutaneously.

The suprapubic fistula closed, Jan. 16, 1926, thirty-eight days after the operation. The urethra and vesical orifice were dilated on three occasions with the Kollmann dilator. The patient left the hospital, February 1, fifty-three days after the operation. At this time he was walking about, voiding freely and painlessly, and with perfect control, although there was still some frequency. The urine showed a small quantity of pus but was otherwise normal. Examination of the removed prostate showed that it consisted entirely of benign epithelial hypertrophy except for one tiny area corresponding to Albarran's "epitheliome adenoide."

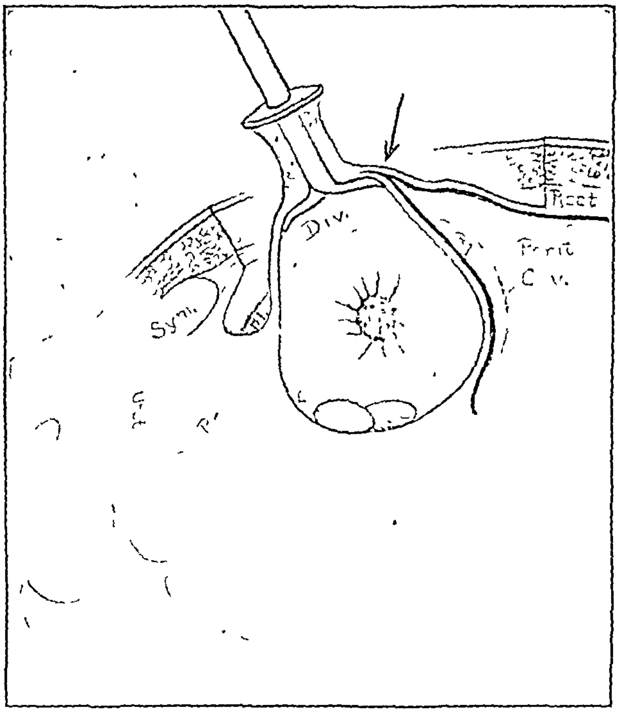

Fig 3.—Diagrammatic sketch showing diverticulum pulled up by Young's prostatic tractor, passed through the fistula Arrow indicates point at which dissection of peritoneal reflection from diverticulum was begun. *Sym*, symphysis pubis; *Uret.*, urethra; *Pr.*, prostate; *M. L.*, median lobe; *Bl*, bladder, *Div*, diverticulum; *Rect*, rectus abdominalis; *Perit Cav*, peritoneal cavity.

The patient was perfectly comfortable and had no further urinary difficulty while at home. About June 1, six months after the operation, he suffered two cerebral attacks, the first of which caused left hemiplegia, while the second proved fatal.

COMMENT

The size and location of the diverticulum in this case were very unusual. It had evidently originated from a point considerably higher on the left lateral wall of the bladder than is the usual site of diverticulum formation, so much so that as it enlarged it pushed forward into the prevesical space rather than backward or upward, and at the time of the cystostomy it had passed well beyond the median line. The misconception to which this gave rise was not cleared up until the cystogram was taken. This misconception, however, was without evil consequences since drainage of the diverticulum instead of the bladder had no disadvantages, but indeed was advantageous, since the urine, entering the bladder from the ureters and leaving the diverticulum through the drainage tube, passed through both bladder and diverticulum, and there were therefore no undrained areas in which infection could develop, as does occur when the drainage tube is placed in the bladder instead of in the diverticulum.

The presence of the fistula leading into the diverticulum provided a further advantage at the time of operation, since it enabled an instrument to be placed at once in the diverticulum, with which it was drawn up and its dissection tremendously facilitated.

The method by which a diverticulum should be removed depends entirely on its size and relationships to other organs. There is no doubt that diverticula developing posteriorly and lying for the most part behind the bladder are best removed by an intravesical operation, in which the diverticulum is preferably drawn up into the bladder and amputated. When the diverticulum lies laterally, or, as in this case, anteriorly, or when it is at the vertex of the bladder, the extravesical method is preferable in many cases. The experience in this case shows clearly, I believe, that when the cystogram indicates that the diverticulum reaches the midline, or even approaches within reasonable distance of it, it is well to perform diverticulostomy rather than cystostomy, whenever preliminary bladder drainage is indicated. The advantages of this procedure are particularly apparent in cases in which the diverticulum is heavily infected. By causing a continuous flow of urine through the diverticulum, stagnation is avoided and infection more easily reduced. When the time arrives for diverticulectomy, the fistula provides an easy path to the diverticulum and a means of producing traction on it without delay. This is particularly desirable when the diverticulum lies in close contact with the peritoneum.

The further lesson to be drawn from this case is the always valuable one that surprising results can be accomplished in cases, apparently the most unfavorable, by careful and cautious work, care always being taken that the patient is equal to the procedure contemplated. Preliminary drainage by cystostomy or retained catheter, copious administration of fluids, transfusion and digitalis will work wonders in restoring the patient suffering from urinary retention and enable him eventually to withstand, without difficulty, operative procedures which would surely be fatal if attempted too soon, but which, when properly carried out, will restore him to health.

289 Alexander Street.

Roentgen Ray in Diagnosis of Pulmonary Disease.—The appearance of the youngest tubercle is unknown, though some believe it represented by the minute, ill defined shadows designated "budding twig," "pussy-willow," "cottony" or "snowflake" irregularities seen along the radiations of the bronchovascular tree in the subapical and apical regions of the lungs. Probably the premise is more sound than when the film shows in the upper third of the chest what is termed a "cirrhus cloud," or "soft spotty mottling," or infiltration, the conglomerate tubercle is visualized. Such shadows are denser at the center and fade out toward the periphery to margins that are more or less hazily defined. When coalescence of such areas occurs, light areas may be seen in the zone of confluent density, indicating that consolidation is not complete. Necrosis or caseation is indicated by the appearance of areas of paling or of clearing. . . . The evolution of such changes can be studied with the aid of a series of roentgenograms.—Austrian, C. R.; *Am. J. M. Sc.*, June, 1927.

FURTHER EXPERIMENTAL STUDIES IN CHOLECYSTOGRAPHY

PATHOLOGIC OBSERVATIONS *

JULIUS FRIEDENWALD, M.D.
MAURICE FELDMAN, M.D.
AND
FRANCIS X. KEARNEY, M.D.
BALTIMORE

Since the introduction of tetraiodophenolphthalein into medicine for purposes of visualizing the gallbladder, attention has frequently been directed by various observers to the toxicity and the hepatic and renal lesions produced by this dye. Graham and Cole[1] were able to note toxic effects only when large doses were administered intravenously. However, Ottenberg and Abramson[2] have reported the production of extensive degeneration amounting almost to necrosis of the liver lobules following the injection of a 5 per cent solution of the dye in doses of from 0.3 to 0.4 Gm. per kilogram of body weight. Lesions were found in addition in the kidneys and spleen. The urine showed large amounts of the injected dye, albumin, casts, and in some instances hemoglobin. Larger doses killed the animals at once or within fifteen minutes with acute convulsive seizures. They note, however, that the doses required to produce symptoms and lesions in the liver were enormously larger than those employed in the tetrachlorphenolphthalein liver function test. They further state that "the amount of tetrabromphenolphthalein used for gallbladder visualization is also safely below the toxic doses; the margin, however, is not so large and suggests the necessity of caution in cases in which the liver parenchyma is already damaged by disease."

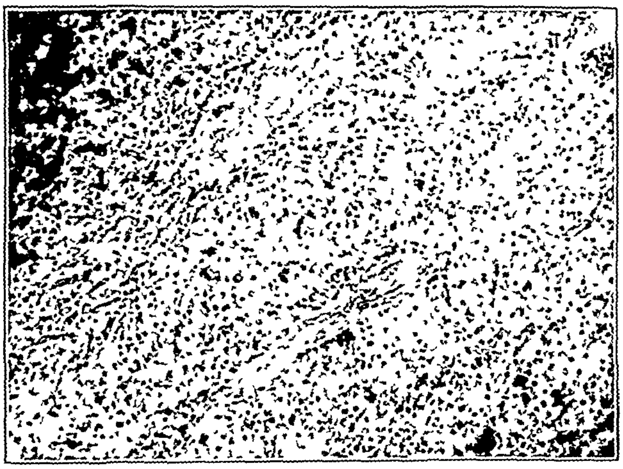

Fig. 1.—Section of kidney (low power): moderate cloudy swelling with slight arterial injection.

Rosenau[3] also cautions against the indiscriminate administration of the dye, and points to clinical and experimental work as indicating the possibility of liver injury following its injection. He concludes that because of the toxicity of the halogenated phthalein compounds they should be employed cautiously and only in moderate doses.

As the oral method of gallbladder visualization is nowadays practiced to a large extent, thus replacing the intravenous method, the question presents itself as to whether a similar toxic effect or liver injury might arise as the result of this method of administration. This appears the more important to us, since in the experimental work that has been reported up to the present, the dye has been administered intravenously.

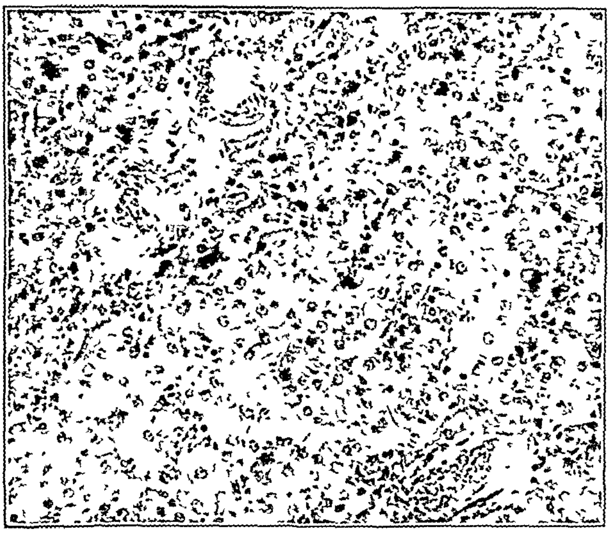

Fig. 2.—Section of kidney (high power).

It is of interest to note that Abel and Rowntree[4] in their original experiments, as far back as 1909, report that when phenolphthalein or its tetrachlor derivatives were administered to animals, ill health did not result. *In numerous autopsies lesions could not be detected* that could be referred to these compounds, and the liver showed no abnormality.

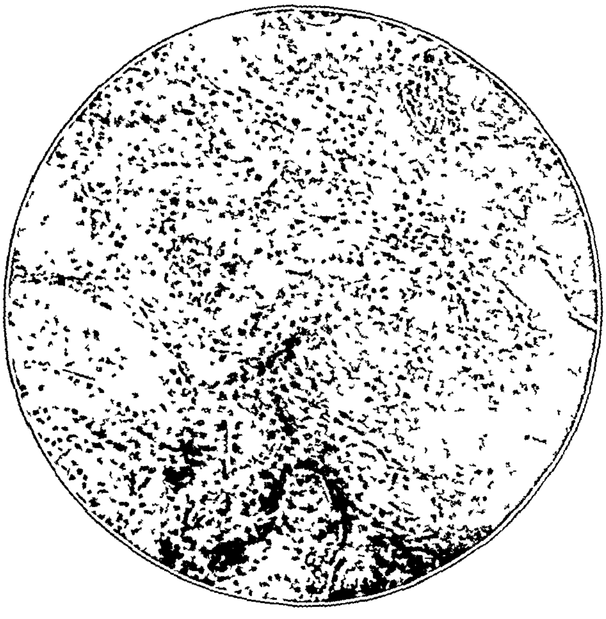

Fig. 3.—Section of liver (low power): hyperemia, moderate edema and moderate fatty changes.

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* From the Department of Pathology and the Gastro Enterological Clinic, University of Maryland School of Medicine.

[1] Graham, E. A., and Cole, W. H.: Roentgenologic Examination of the Gallbladder, J. A. M. A. 82: 613 (Feb. 23) 1924.

[2] Ottenberg, Reuben; and Abramson, H. A.: Production of Liver Necrosis, J. A. M. A. 84: 800 (March 14) 1925.

[3] Rosenau, W. H.: Dangers in the Use of Certain Halogenated Phthaleins as Functional Tests, J. A. M. A. 85: 2017 (Dec. 26) 1925.

[4] Abel and Rowntree: J. Pharmacol. & Exper. Therap. 1: 231, 1909.

As there still appears to be some doubt with regard to the degree of toxicity and the lesions that may be produced by this dye when administered by the oral route, it seemed to us that further experimental evidence was needed to solve this problem definitely. This appears the more important, as at times the dosage of tetraiodophenolphthalein required in cholecystography must necessarily be extremely large.

In the course of our recently reported experiments[5] on cholecystography by the oral route, large doses of the dye were administered by mouth and directly into various parts of the small bowel at frequent intervals.

Twenty-one dogs were utilized in these experiments. The quantity of tetraiodophenolphthalein administered to each varied between 3.8 and 31.6 Gm., given in divided doses within a period of less than two months. Three dogs not given dye were utilized as controls. These animals were finally killed and the liver and kidneys removed for histologic examination. In a single dog, before any dye was given, a small portion of the liver was excised for a similar purpose, and later compared with another portion of the liver of the same dog, removed following the administration of the dye. In no instance could the death of any of the dogs be attributed to the toxic effect of the dye. The cause of death was due, either to the shock of the operation, excess of ether, or, finally, to starvation.

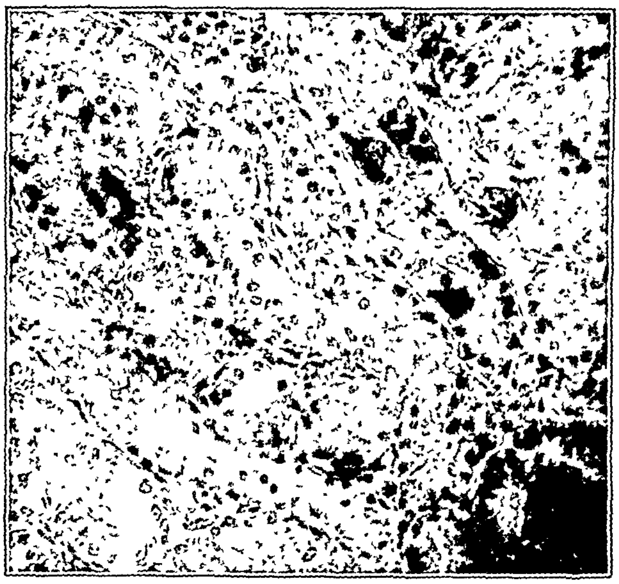
Fig. 4.—Section of liver (high power).

The histologic conditions noted in the kidneys and liver were as follows: (1) normal; (2) congestion; (3) cloudy swelling; (4) early fatty changes; (5) small round cell infiltration about the bile ducts, and (6) moderate fibrosis about the bile ducts. Similar changes were noted in our normal and control dogs, as well as in the dog whose liver was examined before as well as after the administration of the dye. Regardless of the quantity of dye given, all the dogs showed some of the histologic changes just noted. These changes are frequently postmortem conditions, and are observed in dogs dying from starvation or as a result of the ether. In no instance was there evidence of degeneration or of necrosis as has been reported by other observers.

In five instances in which catheterized specimens of urine were examined following the administration of large doses of the dye, no abnormal conditions were revealed. This is entirely in accord with our observations in human beings following the use of the dye for gallbladder visualization.

It is interesting to note that, contrary to the observations of Abel and Rowntree, the dye is absorbed not only in the large bowel but also in the small intestine. By tying off the first portion of the duodenum and also the terminal ileum and injecting a large quantity of the dye into the second portion of the duodenum, we were able to visualize the gallbladder satisfactorily in three dogs. This indicates that absorption takes place not only in the large but also in the small intestine.

As an explanation of the failure of others to obtain absorption of the dye in the small intestine, our former experiments reveal that the gastric acidity is so high in dogs as to acidify the contents of the small bowel to such a degree as to prevent absorption. This is due to the transformation of the dye into an insoluble salt.

CONCLUSIONS

From these experiments it is evident that when tetraiodophenolphthalein is administered orally for purposes of cholecystography, even when given in massive doses, it does not produce degenerative or necrotic changes in the liver or kidneys.

1013 North Charles Street.

Clinical Notes, Suggestions and New Instruments

GUNSHOT WOUND OF THE BLADDER

Montague L. Boyd, M.D., Atlanta, Ga.

It seems extraordinary that a bullet could pass through a man's pelvis and not injure any important structure except the bladder. It is also astonishing that in spite of the fact that the bullet passed through the bladder no blood was found in the urine until forty-eight hours after the injury.

Early Thanksgiving morning of last year a healthy, large man, aged 42, while hunting, was accidently shot in the left buttock with a 22 rifle. Immediately an aching pain began in the rectum, and he had some pain in the right hip and thigh, which was worse on walking.

Though the discomfort in the rectum and the aching pain in the right thigh continued, and he had to have morphine for relief, he had no other symptoms of trouble except fever. The afternoon of the day of the injury his temperature rose to 101.2 F ; the next day it was 99 in the morning and 100.1 in the evening.

A microscopic examination of a catheterized specimen of urine made a few hours after the injury did not show blood, nor was any blood seen in the urine until forty-eight hours after the injury, when the patient passed urine well colored with blood; the evening before he had been given a soapsuds enema, which he could not expel and which was later siphoned off.

Blood was not obtained from the rectum at any time, and a proctoscopic examination by Dr. Troy Bivings (with whom I saw the patient) the day of the injury did not show rectal injury.

I was not called to see the patient until the evening of the *third day.* Rectal examination at that time showed a soft mass above the prostate which protruded so much that it caused the rectum to fold back over the upper part of the gland. Pressure on the mass caused a distinct discomfort. There was no suprapubic tenderness. The urine was rather bloody, and contained some streptococci and staphylococci (stain).

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[5] Friedenwald, Julius; Feldman, Maurice; and Kearney, F. X.: Radiology, to be published

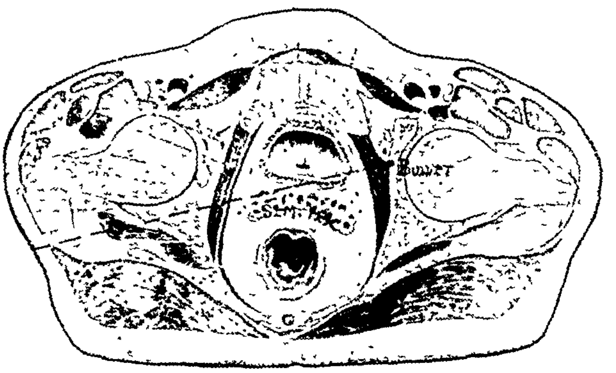
At cystoscopy the mucosa of the distal part of the prostatic urethra, the vesical orifice and the trigon showed a marked edema. The vesical orifice was so much elevated that it was difficult to get the lens of the cystoscope far enough away from the trigon to view it satisfactorily. Beyond this swelling, which extended to the interureteral ridge above and to the lateral walls of the bladder on each side, the bladder seemed fairly normal. In the outer upper edge of the swelling on either side there was a bleeding point, from which so much blood came that I was never able to get a sufficiently satisfactory view to determine the exact location of the bleeding or the extent of injury to the bladder.

On the morning of the next, the fourth, day I made a suprapubic incision and found the perivesical tissues distinctly, though slightly, edematous, and of a slightly unpleasant odor.

With the bladder opened, the area of edema and hemorrhage could be palpated quite easily. It was limited to a fairly sharply defined area back of the bladder, about 6 cm. in diameter and about 4 cm. thick; it was soft, and slightly crepitant. A Pezzar catheter was fastened in the upper, anterior part of the bladder, and rubber drainage tubes were left on each side of the bladder extending down to the area of injury.

A culture made from the fluid in the tissues about the bladder showed a gram-positive coccus "morphologically consistent with staphylococci."

The patient made an uneventful recovery.



Schematic representation of the course of the bullet The actual course was probably at a slightly lower level. The bladder was probably full and therefore rounded, so that the bullet passed through only the most dorsal portion. Both seminal vesicles were probably injured, as would have been possible with the bladder full and pushed back between the seminal vesicles. (Photo of a plate in "A Cross Section Anatomy," by Eycleshmer & Schoemaker, published by D. Appleton & Co.)

About two months after the accident he came in, at my request, for an examination. He had had no symptoms from the injury except an aching pain in the right hip when he walked more than usual, and some blood in the semen on several occasions. Urination was not disturbed.

The urine was clear, and a rectal examination showed a raised fold of tissue running across the pelvis at the level of the upper part of the seminal vesicles which was evidently scar tissue along the tract of the bullet. The prostate seemed normal. The seminal vesicles could not be palpated.

COMMENT

It is difficult to explain why there was no blood in the urine for from twenty-four to forty-eight hours after the injury, but it is interesting and important to observe that the bladder can actually be penetrated by a small caliber bullet without showing even microscopic evidence of blood.

There is no doubt in my mind about the bladder having been penetrated. The bleeding was profuse at cystoscopy, and there was no question that there had been an extravasation of urine into the tissues about the bladder.

The surgeon with whom I saw this patient made me feel that he needed to be convinced that the suprapubic exploration which I advised was necessary. Such a necessity in cases of this kind is difficult to demonstrate, but in my experience it is far safer to make a suprapubic incision and explore the bladder region for extravasation than it is to run the risk of permitting an extravasation to go undrained.

563 Capitol Avenue S.W.

RAPID FILTERING APPARATUS STOPPED AUTOMATICALLY AND AT WILL

Moses Einhorn, M.D., New York

In order to emphasize the improvements which I claim for the apparatus I am about to describe, a brief summary of the difficulties encountered in the more common methods of filtration is quite necessary. The old method of procedure involved the use of a funnel, beaker and cotton or filter paper arranged in a fashion similar to that illustrated in figure 1. There were many difficulties and disadvantages connected with this old method. In the first place, the filter paper had to be folded into a shape to fit the funnel. Then, too, the rate of filtration was very slow. Constant attention was required to prevent an overflow of the filtrate into the container. Removal of the filtrate necessitated the removal of the beaker containing it and the substitution of another. Filtration could be stopped only by the removal of the filtering material from the funnel.

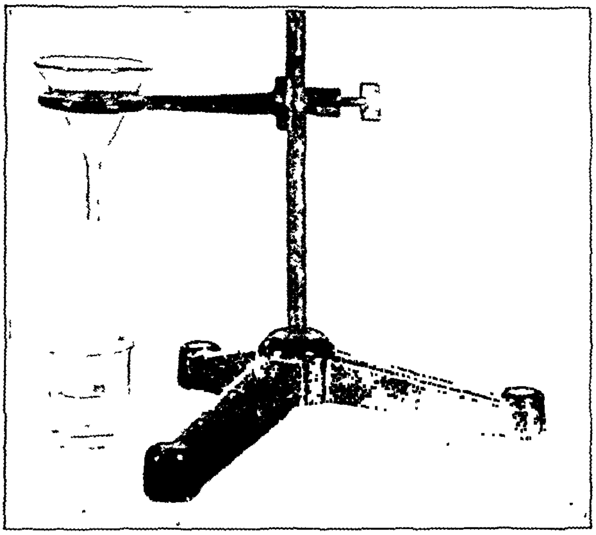


Fig. 1.—Method of filtering ordinarily employed

These difficulties were constantly encountered by me while doing gastric analysis, as no doubt they are in the work of all others who find it necessary to do filtration. After much experimentation and development, I have devised an apparatus which I believe will solve many of the difficulties now encountered while doing filtration, and in presenting it to the medical profession I trust that it will simplify the work of others in this respect as it has mine.

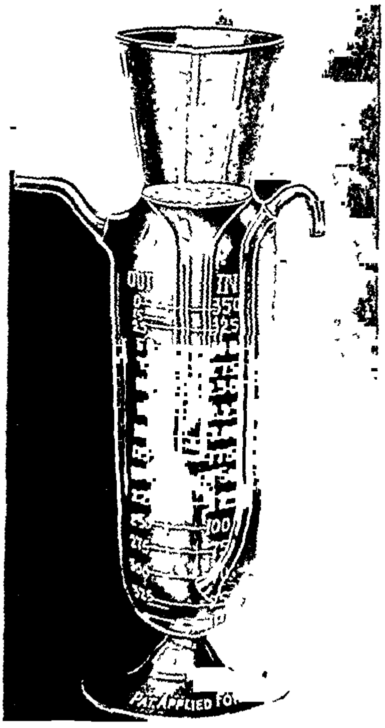


Fig. 2—Rapid filtering apparatus as described by author.

The apparatus which I have constructed (fig. 2) consists of a glass receptacle into which a specially prepared filter-paper cup may be inserted. The bottom of this receptacle is a perforated disk to which is attached a funnel tube which leads into the container and ends some distance from the bottom of it. At the top of the container on the left is a tubelike opening for the escape of air and for the attachment of a suction pump if one is desired. Opposite this opening and in the container (to the right) is a siphon, one end of which terminates just above the bottom of the container, the other in a tubelike opening to which may be attached a rubber tube and stopcock to complete the siphon. Standard measurements (graduated in cubic centimeters) are found on the container. Those on the right, with the arrow pointing up, indicate the amount of filtrate in the container. Those on the left, with the arrow pointing down, are used to measure the amount of filtrate that is removed. The apparatus is made of glass, the parts being closely attached and inseparable, so as to make the device absolutely air-tight. The capacity of the upper cup is always less than that of the space formed by the sides of the funnel and the wall of the container. A cup of filter paper is specially prepared for this apparatus and exactly fits the upper receptacle, thereby eliminating all folding and shaping of filter paper to fit the vessel containing the liquid to be filtered.

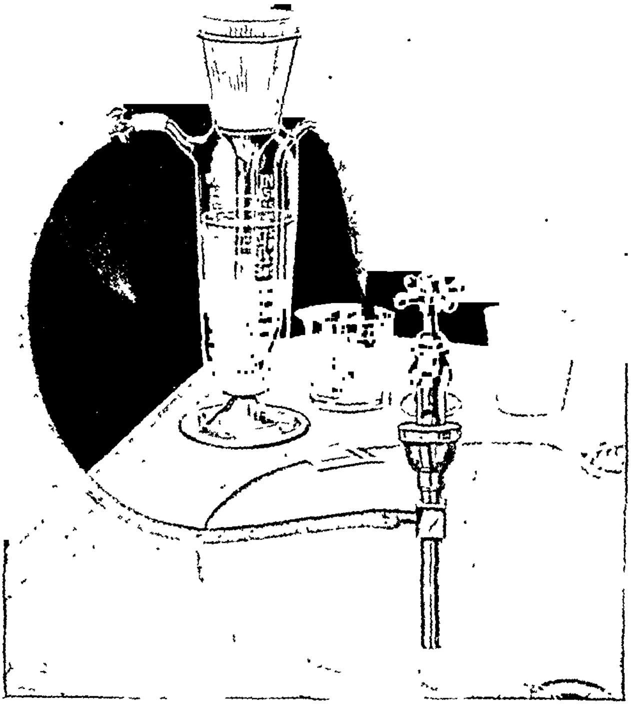


Fig. 3.—Use of suction with author's apparatus.

The use of this new type of filtering apparatus does not radically alter the method employed in the process of filtration. However, in order to obtain the best results, it is necessary to observe the following directions: The filter cup is placed in the receptacle provided for it and the liquid that is to be filtered is poured in. The filtrate then passes through the perforated disk into the funnel tube and through it into the container. When some of the filtrate has already passed into the container, the siphon is filled and the stopcock closed. Filtration proceeds quite rapidly without the use of suction. If more rapid filtration is desired, suction may be introduced in the manner illustrated in figure 3. Through the insertion of a stopcock in the rubber tube attached to the opening at the left, it is possible to control the amount of suction and hence the rate of filtration. The filtrate will rise in the container and after filling the lower part of the funnel tube it will rise in the space between the funnel tube and the wall of the container. When the filtrate begins to reach the level of the higher readings, the suction must be eliminated. The filtration will then continue at a slower rate and will stop automatically when the hydrostatic pressure produced by the filtrate that enters the space plus the atmospheric pressure entering through the opening at the left is equal to the hydrostatic pressure of the filtering material in the cup plus the atmospheric pressure on it. In this fashion, then, the air space in the upper part of the funnel is subjected to equal pressure from opposite forces. The filtration may be stopped at will by shutting the stopcock of the suction tube. The filtrate can be removed by opening the stopcock of the siphon, thus permitting the withdrawal of the filtrate without disturbing the process.

The advantages of this apparatus are obvious and need only a brief description.

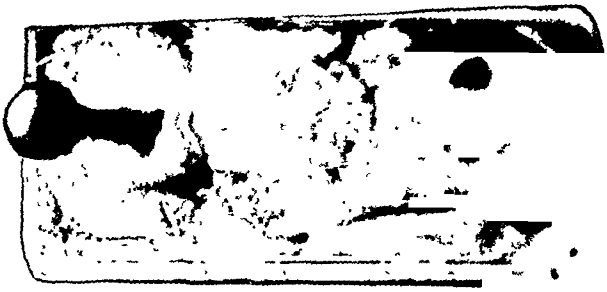
1. The provision of a ready-made and shaped filter cup eliminates the necessity of folding and shaping the filter paper as was previously done.
2. The introduction of suction permits rapid filtration.
3. The filtration is stopped automatically.
4. The presence of the siphon makes it possible to remove the filtrate without disturbing or stopping the process.
5. The graduations on the wall of the container permit one to measure, in easy and convenient fashion, both the amount filtered and the amount withdrawn.
6. The filtration can be stopped at will merely by closing both stopcocks.
7. The arrangement permits of continuous filtration and withdrawal of filtrate without in any way halting or stopping the process of filtration.

286 West Eighty-Sixth Street.

RUPTURED GASTRIC ULCER IN INFANCY: REPORT OF CASE

H. E. Butka, M.D., Los Angeles

Although the literature abounds in reports of duodenal ulcers, the occurrence of gastric ulcer in infants is exceedingly rare. A careful search has revealed only three cases of ruptured gastric ulcer in infants under 2 months of age. In 7,219 autopsies reported by Sturtevant and Shapiro[1] from Bellevue Hospital, there were five cases of gastric ulcer in children. Adler[2] reports twenty-six fatal cases of gastric ulcer in children, nine of which had perforated. Proctor,[3] reporting from the Mayo Clinic for the years 1906-1924, describes only two cases of typical gastric ulcer in children.



Ruptured ulcer with surrounding area of discoloration.

Thiele[4] states that gastric ulcer in children under 16 years of age is comparaively rare, and reports 119 cases. Cackovic[5] found that 2.3 per cent of gastric ulcer in his clinic was in children under 10 years of age. Carteaux[6] reports the first recorded fatal case of ulcer of the stomach in a new-born infant, in 1858. Holt[7] states that gastric ulcer is of great rarity and reports two cases of rupture in infants—one by Rotch at 6 weeks and the other by Cade at 2 months of age.

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[1] Sturtevant, Mills; and Shapiro, L. L.: Gastric and Duodenal Ulcer, Arch. Int. Med. **38**:41 (July) 1926.

[2] Adler, Harry: Gastric Ulcer in Childhood, Am. J. M. Sc., January, 1907, p. 135.

[3] Proctor, O. S.: Chronic Peptic Ulcers in Children, Surg. Gynec. Obst. **41**:63 (July) 1925.

[4] Thiele, P.: Gastric and Duodenal Ulcers in Children, Deutsche Ztschr. f. Chir., July, 1919.

[5] Cackovic: Gastric Ulcer in Children and Its Consequences, Arch. f. klin. Chir., July, 1912.

[6] Carteaux: Observation of Gastric Ulcer in Fetus at Full Term, Compt. rend. Soc. de biol. **4**, 1858.

The symptomatology is variable. Apparently the only characteristic symptom is hemorrhage, occurring as hematemesis or melena with tarry stools. Vomiting is not constant. With perforation there is collapse, high temperature, tympanites and rapid death. Peritonitis develops but is masked by the other conditions. Death usually occurs within thirty-six hours.

The present report is of an infant born in the White Memorial Hospital under the service of Dr. J. P. Mortenson.

REPORT OF CASE

A baby girl, weighing 8 pounds 8½ ounces (3.8 Kg.), was born to Mrs. M. H., a primipara, Nov. 2, 1926, at 11:55 p. m. Labor was induced by castor oil, quinine and enemas, and lasted seven hours. Head molding was slight. Asphyxia was severe, and artificial respiration and oxygen were given. Much mucus was aspirated with a catheter from the pharynx. The baby later became quite blue at times, especially following the administration of fluid. There was much difficulty in swallowing fluids and in nursing. The temperature increased on the third day to 102.6 F. Then she appeared to be somewhat better and rested quietly. Some dehydration was observed, and she raised some thick, tenacious mucus. On the fourth day the mucus was blood tinged and bright blood was vomited. The stools became tarry. All fluids taken by mouth were returned. On the fifth day the child became weaker and cyanotic. In the evening, abdominal distention appeared and became progressively worse during the next twelve hours. Marked tympany was present. Death occurred at 9:15 p.m. of the sixth day.

Autopsy, performed thirty minutes after the death of the infant, revealed that a portion of the cord was still attached but dried up, and the site was well healed. A few small hemorrhagic spots were seen on the nose. A small needle puncture wound was found on the abdomen about 2 cm. below the umbilicus. The abdomen was markedly distended to capacity. Some lividity was present on the back below the shoulders.

When the peritoneum was opened, a large amount of air escaped, with the entire disappearance of distention, leaving the abdominal organs small and collapsed. There was about 500 cc. of air free in the abdominal cavity. The cavity contained some dark clotted blood and fibrin, with some fibrinous material resembling a low grade exudate present over many of the coils of the intestines and especially prominent in both flanks. Much blood clot was found in the stomach, and duodenum, and liquid dark colored fluid blood was present in the jejunum and ileum. The fecal material in the colon was of a lighter color.

Further examination of the stomach revealed externally an area of discoloration and fibrinous exudate over a zone about 2 cm. in diameter, on the greater curvature, about 1.5 cm. below the cardia, and coming into contact with the spleen. Internally, there was found a round crater-like ulcer measuring 8 mm. in diameter and evidently opening into the peritoneal cavity, although the fibrinous exudate had covered most of the opening. Other areas of necrosis of the mucosa were present, but the process had not extended elsewhere to actual ulceration.

The other abdominal organs did not show definite pathologic changes.

Examination of the thorax revealed both lungs partly aerated and partly atelectatic, this being most marked on the left side, involving a portion of the upper and a larger portion of the lower lobe. Patches were also present in the right lung.

The heart was fairly large, and quite normal in appearance. The foramen ovale was patent but fairly well covered by the valvelike membrane.

The anatomic conditions were: perforated gastric ulcer; acute peritonitis; gastric hemorrhage; pneumoperitoneum, and atelectasis.

The probable cause of death was perforated gastric ulcer with hemorrhage and peritonitis.

COMMENT

The interesting features of this case are the age of onset; the occurrence of hemorrhage in the vomitus and stools, and the rapid development of acute distention twenty-four hours before death, presumably corresponding to the time of rupture of the ulcer. This distention was entirely due to free gas in the peritoneal cavity, the intestines and stomach being completely collapsed. The ulcer occurred on the greater curvature in a position readily accessible. Prognosis in peptic ulcer is always grave because of the small amount of blood an infant can lose and still survive. An early diagnosis in gastric and duodenal ulcers in infants is essential.

North Boyle and Michigan avenues.

A UNIVERSAL INDICATOR FOR HYDROGEN ION CONCENTRATION *

EMIL BOGEN, M.D., CINCINNATI

A single solution that will give a continuous change of color with changes in hydrogen ion concentration over nearly the entire range, from strongly acid to strongly alkaline solutions, may serve a multitude of purposes in the clinical and scientific laboratory. Such a mixture, suggested by Moirs of South Africa in 1917, is marketed by the British Drug House. Great accuracy must not be expected from such an indicator, although differences of p_H as low as 0.2 may be distinguished; but for rough approximations or as preliminaries to more exact determinations, it may be found of great value.

The following mixture has also been developed for this purpose, as it has a range from p_H 1.0 to p_H 10.0, with a continuous change of color with change in hydrogen ion concentration: phenolphthalein, 100 mg.; methyl red, 200 mg.; dimethylaminoazobenzene, 300 mg.; bromthymol blue, 400 mg.; thymol blue, 500 mg. Dissolve in 500 cc. of absolute alcohol. Add tenth normal sodium hydroxide solution until the red disappears and the solution becomes yellow (p_H 6.0).

For determining the hydrogen ion concentration of any solution, add one drop of this indicator to 1 cc. of the specimen. The colors produced resemble those of the spectrum, thus:

Red	indicates about p_H 2.0	(very strongly acid).
Orange	indicates about p_H 4.0	(strongly acid).
Yellow	indicates about p_H 6.0	(weakly acid).
Green	indicates about p_H 8.0	(weakly alkaline).
Blue	indicates about p_H 10.0	(strongly alkaline).

For closer approximation, a series of standard solutions for comparison can be made with known buffer mixtures as described by Clark and Lubs.

Indicator papers, made from the indicator solution by soaking heavy filter paper with the alcoholic solution and drying, is very useful, as it may be substituted for litmus paper or similar indicator papers in general use with a consequent amplification of information so obtained. A standard chart may be made in permanent colors to match.

FRACTURE OF OS TRIGONUM: REPORT OF TWO CASES

ROLAND MEISENBACH, M.D., BUFFALO

In reporting these two cases, it may be well to understand that an os trigonum occurs more frequently than is recognized and that its fracture is not unusual. Cases that have shown the presence of an os trigonum are usually those in which foot symptoms other than static errors are pronounced.

I have seen an os trigonum mistaken for an exostosis, spur, hypertrophic exuberance or other condition and, in many cases, entirely overlooked. In a careful diagnosis of foot conditions, an os trigonum, when present, may play a more important rôle than is generally supposed. The two cases reported here clearly illustrate the points in question. These two cases have occurred in a relatively short interval among a large number of foot cases presenting definite symptoms. In these cases, the os trigonum frequently appeared in various forms, but it was fractured only in the ones reported.

REPORT OF CASES

CASE 1.—A man, aged 25, weighing about 160 pounds (72 Kg.), healthy, while playing squash at the university club.

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[7] Holt, L. E.: Diseases of Childhood and Infancy, New York, D. Appleton & Co., 1916, p. 342.

* From the Department of Biochemistry, University of Cincinnati College of Medicine.

caught his ankle at the side of the court and fell. Examination showed a painful ankle, no swelling of the forefoot, but a definite circumscribed ecchymosis about the size of a penny on the internal and external aspect, just forward of the Achilles tendon at its insertion. Motion at the ankle was not limited and the peroneus muscles were not in a state of spasm. A lateral roentgenogram showed a large os trigonum fractured but not displaced. Convalescence was uneventful; the patient was able to use the foot in two weeks.

Case 2.—A fleshy woman, aged 48, weighing 222 pounds (100 Kg.) with lipomatous nodules in her arms and limbs, stumbled with her foot in dorsiextension and fell. Examination showed a painful ankle with pains referred to the toes, and swelling of the entire foot and ankle. An anteroposterior roentgenogram showed an irregular crack extending entirely through the upper part of the astragalus, but no displacement. The lateral roentgenogram showed a large os trigonum which had been fractured at its base and pushed backward. The ankle surface did not show ecchymosis. Under nitrous oxide and oxygen, the foot was gently manipulated and placed in a firm dressing, and later on a flanged plate. The result was good.

140 Allen Street.

Special Article.

THE PSYCHOLOGIST LOOKS AT THE DOCTOR *

JOSEPH JASTROW, Ph.D.
Professor of Psychology, University of Wisconsin
MADISON, WIS.

I am aware to the point of embarrassment that a psychologist may look at a doctor only from that lowly position of privilege and reverence from which a cat may look at a king; nor have I any designs, feline or otherwise, to psychoanalyze the doctor and disclose any unpresentable repressions or complexes detrimental to the prestige that is the most valuable instrument in his formidable black-bag. As a prescription that I shall presently consider concerns the dissipation of fear, I offer this dose of assurance, in place of any more acceptable consolation suppressed by the freudian censor under the name of Volstead. Nor have I any thesis of startling novelty which might lead you to suspect it as a radical innovation. What I have to say is in the air, or, as we now say, *on* the air, and might be broadcast from any medical station in tune with the modern wave-length.

It takes its start with the truism that a doctor treats patients as well as diseases—a patient with a disorder, the two intricately and at times hopelessly entangled. The physician must forget what the medical student must remember in his dissecting-room period, that the human subject, like Gaul, is divided into parts to be distinguished minutely without confusion. Any such sectional attitude in his vivisectional practice with sensitive human subjects will be as unfortunate as any other false diagnosis.

The doctor is in charge of the health attitude of the personality, which is bound up intimately with the deepest, most vital interests of living. He should not be summoned, like the lawyer, only when his clients are in trouble, though he is there for emergency purposes as well. There is much to be said for the practice of stopping the doctor's pay when the patient gets sick, except that a liking for such immunity from charges might encourage malingering or invalidism. Avoiding the doctor's bills is a stimulus to health that should be recognized in the principles of mental hygiene. The pocketbook nerve, one of the most sensitive in the human organism, is apparently a branch of the solar plexus. The prescription for the doctor, that he should not be so amiable as to encourage recklessly visits from his patients, is easily observed by many doctors that I have met, without violence to their nature. Yet he should not be so objective as to keep his patients at a distance either spacially or socially. Medical diplomacy is a worthy art. Fortunate the doctor who can make friends of his patients, fortunate the patients; though friendliness is not a complete substitute for solid information.

In this day of simple panaceas, we are informed that an apple a day will keep the doctor away—a welcome discovery to apple growers, but apparently not accepted by the army of advertisers of a thousand philanthropic concoctions in bottles, tubes, jars, capsules, pills, tablets, and similar containers offering relief and contributing to the most popular indoor sport of the day—keeping the doctor away, or keeping away from the doctor. Yet it isn't quite true—it isn't at all true—that he who is his own doctor has a fool for a patient. For one of the rewards of making a friend of the doctor is to increase one's expertness in being one's own doctor, in getting something of the doctor's own view of health. Health is a cooperative enterprise, no less than education. Speaking from long experience in the classroom, I am aware of the successful resistance which many students can maintain toward the educative process; a like adroitness or attitude toward the doctor would defeat the most benevolent as well as the wisest member of the healing profession.

AIMS OF PROFESSIONAL MEN

I interject by way of a slight detour that a profession is distinguished from a business in that it is devoted to its own destruction. Its major purpose is organized suicide. The medical profession is perhaps the most professional of all. The goal of the doctor is to have all people so well that no one will have any need of him. The professor is a close second. He would like to have every one so well informed and so naturally wise that there will be no need of teaching, and he may then devote himself with the same luxurious salary to some more profitable enterprise. The minister would like to see all humanity so naturally seeking the road to salvation and so universally virtuous that his would be the most unnecessary of callings. As to the lawyer, I have my doubts: whatever concerted efforts lawyers are making to diminish human contentiousness and thus have their occupation gone is successfully concealed, and in their zoological tolerance they accept fees with equal resignation from lions and lambs, after which they have no objections to their lying down together in peace, awaiting the millenium. Let us professional men cheerfully accept the high privilege of spending our efforts in the cause of diminishing the need for our services. Yet in any future as yet foreshadowed, the psychologist may continue his observation of doctors, for there will be urgent and abundant work for both.

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* Read before the American Laryngological, Rhinological and Otological Society, *Atlantic City, N. J., May 26, 1927.*

As one turn, whether good or not, leads to another, I add a further detour by way of a retrospective glance. That the soldier, next to the hunter, is the oldest of occupations in the total business of living, and both destroy life, is hardly a source of philosophic satisfaction. The defense against the human animal seems to be the fundamental prerequisite to life, liberty and the pursuit of happiness, endangered by the presence of other pursuers of the same goods. Next came the medicine-man, in those unspecialized days combining the functions of doctor and priest and scholar, versed in all the tribal lore of the wonder-working class, who alone could stand up against fate to avert disaster or invite if not command success. Just who has inherited his bag of tricks and assumption of superior wisdom, whether doctor, professor or minister, it would be injudicious to suggest. But their remote composite prototype had the advantage of treating the whole man, with such body, mind and soul as he possessed; and mental medicine is as old as drug-craft and bone-setting. The doctor has been for so many generations under the strain of appearing wiser than he is that we have forgotten that the word "quack" has no inherent medical restrictions. One of the incidental advantages of specialism is the relief that it affords to the general practitioner by making it respectable to admit his own limitations. The cultural route from the medicine-man to the medical specialist is a long one, full of interesting episodes, and is so largely a double story, the one of the recognition of ailments and skill in their control, and the other the reaction of the patient to the ceremonies of the healing cult, that it belongs equally to medicine and to psychology. It justifies the use of the term psychologic medicine in more senses than one, and mitigates the irrelevance of my presence in this gathering of specialists.

RELATION OF PHYSICIAN AND PATIENT

Though what I am converging on is the psychology of the doctor-patient attitude, that has its basis in the central and far-reaching fact which affects the art of the practitioner, the intricate and often baffling interplay of the bodily and the psychic mechanisms. One of the most useful words in the scientific and practical vocabulary is the word clinical. Though derived from the accidental fact that most persons when sufficiently out of gear are sick-a-bed, the bed has as little relation to the clinical attitude as has the church, which is a structure of stone, to the invisible Church, whose ministration is the reason for the edifice. The clinical attitude toward human nature is shared by the psychologist and the physician and makes them so far kin. Somewhere I met in medieval Latin the saying that where there are three doctors there are two atheists. Their skeptical Missourian reputation seems to be an old one. If not now, then eventually, it will be true that where there are three doctors there will be two psychologists. I believe that psychology has so much to contribute to the clinical insight that its inclusion in the medical curriculum is inevitable.

Both historically and by the nature of his service, dealing with a sufficiently complicated anatomy and a superimposed and supercomplicated psychology of the patient in whom that anatomy is incorporated, the doctor is by necessity both a technician and a clinician: and it is the clinical aspect that imposes the larger human and humane obligation. The dentist (and he is the last man I would dare to "knock," for he is so ingeniously equipped to get back at you) is almost wholly technician; and one rarely makes a friend of one's dentist, not only because he has all the advantage in any attempt at genial conversation, but by reason of the general intimate indignity of his attentions. Scientifically he serves as a useful personal demonstration of the anatomic cost of evolution, and should have been summoned as a formidable witness at the belated hersey trial staged in the wilderness of Tennessee. Many escape the doctor, few the dentist. He serves also to reconcile the layman to the necessity of specialists in other parts of our physiology than are exercised in any demonstration of hospitality when we eat and talk with so much of our original equipment as the dentist has spared. The era of specialism should not throw out of focus the center of the medical art, which is the function of the general practitioner, who deals more nearly with the total patient, and sees him more soundly because he sees him whole.

The practitioner meets the normal man in a somewhat abnormal situation; he must be conversant with the ills that mind as well as flesh is heir to. He must be sympathetic with the total human heritage. The two points in the psychology of that relation that dominate, yet by their very familiarity seem to have escaped pointed attention, are, first, the component of fear, and, second, the confidential unreserve. The typical attitude of the patient is one of anxiety, apprehension. The anatomic distribution of that effect is an interesting one. Some medical man has made the generalization that in diseases above the diaphragm the patient is hopeful, and in diseases below that membranous partition of optimism and pessimism he is despondent. Perhaps the most convincing bit of evidence is furnished by the malady that has the lowest mortality rate, sea-sickness, in which the sufferers are burdened with two fears according to the measure of emotional rationality which they retain: either the fear that they may die, or the fear that they won't. The fear complex occupies the central place in the psychology of the doctor-patient relation. This fact should be frankly faced; and following the clinical clue, it leads directly to the condition called neurasthenia.

THE NEURASTHENIC COMPLEX

The study of the functional nervous disorders contributes an important chapter to psychology. They stand as the end-terms of types of deviation from the normal. They are of importance for an understanding of the human composite. Parents, teachers, employers, social workers, ministers, doctors, those who in any capacity have to direct the whole man (and here it is particularly important to add the whole woman or boy or girl) must be conversant with the pictures of the liabilities of "nerves." We call them nervous disorders. They are, in fact, slightly abnormal tendencies, which, when seen through the magnifying glass of disease, show their distortions, but looked at through the other end of the opera-glass, these neuroses appear in miniature in the normal. They then represent a disposition, a tendency—what for the lack of a more convenient name we call a symptom-complex. The picture of neurasthenia in the normal person is a trait-complex; it applies to a certain type of personality. When the neurasthenic temperament is exaggerated and breaks bounds by the ravages of disease, we have clinical neurasthenia. The same principle applies to the hysterical temperament, or to the paranoid temperament, and to others not so readily differentiated. There is enough of all this in most of us, fortunately not in all of us, that illness brings out the liability. Most patients, in addition to their troubles of a more technical type, are clinically somwhat neurasthenic. In acute neurasthenia these symptoms more completely dominate and enlarge if they do not actually create the physical aches and pains and incapacities, terrorizing the patient whose misery is so profound that only a serious impairment can be held responsible. To expand this thesis would develop it into a lecture and arouse your latent neurasthenia, for its dominant symptom is fatigue. Were it not that animals share this physiologic accomplishment, I should be tempted to regard as the most characteristic human response that of yawning. It remains so in that only a human being yawns when bored as well as tired.

When the psychologist looks at a neurosis, he is on the search for a group of central factors around which the total picture may be built. For neurasthenia the first of these is fatigue—that well known tired feeling, the reputation for which the business man cultivates as an excuse for indulgence or grouch, and the really busy man, like the doctor or the psychologist, knows too intimately to need to have it described. Fatigue is the deadliest foe to happiness, the damper of success, the discourager of enterprise, the closest ally of disease in that it lowers resistance; its dominance makes rest the most universal prescription of nature, thus once more bringing the bedside as the condition of restoration. The lowering of energy conditions the lassitude that marks the departure from normal well being. We are as well as we are energetic.

The second feature is fear. The extent to which fear may incapacitate the strongest man, once his nerves are shattered, defies belief. Shell shock is fear shock. Among the war records there is one of an officer with distinguished service medals who, on his return to Washington, locked himself in his office and wept like a child in order to gather courage enough to get his discharge and live for two years alone on an island in the Pacific in an attempt to regain his nervous stability. When a man has been decorated for courage under the most trying circumstances, one ceases to think of fear as a cowardly symptom; it is definitely a neurotic one. It extends to apprehension, to worry, to care, to an incapacity to face even ordinary situations. Now there is something of this in miniature in every disease, and naturally it centers about the fear of suffering, of incapacity, of an uncertain future. The technic of assurance is accordingly the first instrument to put in the first-aid kit of the doctor. To induce by the art of authority, of reason, of persuasion, of suggestion, as normal an attitude to the acceptance of the disorder—this is what one might call clinical morale. And as the behavior of the soldier individually and collectively depends on the morale of the organization, the psychologist urges on the doctor the study of clinical morale. Its central principle must be directed to the diplomatic handling of fear. Fear is a poor name for so rich a psychologic product, and we are too apt to associate it with its more limited physical aspect. To assure by authority, to encourage by manner, to restore the broken morale which is so frequently an accompaniment of lowered health that it is one with the total ailment, that is part and at times the best part of a cure. The details belong to the practitioner of the healing art.

The third feature in the neurasthenic complex is depression. The physicians who first diagnosed the neurasthenic state labeled it by what most impressed them. Like much else of destructive value in life, it is an American invention. Dr. Beard spotted this modern devil and gave it its name, which was soon popularized as nervous prostration. He was impressed with the paralysis of energy, the overwhelming difficulty in action; while the French neurologists were more impressed with the depressive aspect, and the popular French name for it is a depression of the nerves. It is easy to understand how inevitably fear and worry, combined with difficulty in effort, lead to a complete pessimism, a true melancholia that has only the relief of moving up and down the misery scale, and in a measure yields to the solace of sleep and drug action. Thus clinical morale sends the doctor to another chapter in psychology, the study of emotional fluctuation, which finds its completest picture in the varieties of depression. The technic of meeting depression is not the same as that of meeting fear, and the resources at command are limited. To steer between stimulation that cheers but does not fatigue, which may induce a relapse, is a delicate art. The social factor so dominates the emotional life that the question is more often not what is best for the patient but who is best. Some patients like nurses; some regard them as the worst feature of the disease.

The fourth focus of neurasthenia is the loss of an allied affect, the zest, the joy of living. It is in truth merely another phase of depression, but so distintive that it is often the symptom that brings the patient to the doctor. Dr. Meyerson is so impressed with this factor that he prefers to speak not of neurasthenia, but of anhedonia, the loss of the pleasure-sense. It is one of the most dismal consequences of exhaustion and reaches from the loss of appetite to the lack of pleasure in nature, in recreation, in reading, in friends, even the interest in one's pet enemies; one becomes dull to the field of either excitement or amusement. The neurasthenic ceases to care. The anhedonic is blasé not from having tasted all life with such excess that it has grown stale, but because his energies are so lowered that nothing is worth doing. To restore energy restores control, dissipates fear, lightens depression, imparts zest. It is all part of one's morale, and it enters into the picture of disease so intimately that it stands as the guide to clinical diplomacy. It makes quite definite the state of mind that the clinician has to meet. He faces, according to the disposition of the patient, a slight or a marked neurasthenic impairment as the typical concomitant of disease. He should be prepared in the technic of its detection, its quality, and in the difficulties of its treatment. Least of all should he disregard it as of slight consequence because of the necessary major attention to the part of the disorder that he discusses with the consultant physicians.

THE GAME OF HEALTH

I pass to the second of the two reflections which come to the psychologist as he ventures to speak to as well as to look at the doctor. It is the relation of confidence and unreserve. It is the matter of throwing off the mask, or, to recognize the present fashion, the make-up which society requires all of us to wear and of establishing that more intimate footing which is indispensable in the companionable journey along the road to health. It is here that a minor aspect of the freudian psychology has a definite clinical bearing. Freud calls attention to the veil which the artificial relations of society throw over the realities of human nature. In the presence of others, every one is a censored as well as an inhibited version of himself. Those who believed that the psychoanalytic technic had a large clinical importance were influenced by the hope that this would be a method of breaking down such resistances and getting at the submerged, concealed, suppressed difficulties which at times were responsible for maladjustment and disorder. I cannot take time to indicate in any precision what portions of the freudian doctrine seem to me of permanent value. I can only say that I regard it as fortunate that only a small proportion of patients, and a still smaller proportion of normal persons, are sufficiently complex in their make-up to require or benefit by any technical psychoanalysis. Fortunately civilization has not as yet brought us to such a pass that we are all so sophisticated and involved that a doctor who is a bit of a psychologist can't see through most of his patients. He needs no more penetrating roentgen ray than common sense refined to a clinical gift. The majority is still of the ordinary garden variety of human folk, fortunately exempt from psychoanalysis because there isn't enough in them to psychoanalyze. Commonplaceness, not to say dulness, has its advantages. One of the temptations of the doctor's office to a certain type of patient is the hope that he, or should I risk all hope of popularity by saying she, may prove to be an interesting case. It is a common observation that persons with no conspicuous intellectual resources take a peculiar pleasure in discussing their ailments after the topic of the weather has been exhausted. But it is not this phase of the danger of substituting disease-consciousness for health-consciousness that I have most in mind. We are all familiar with the classic story of the medical student who, after listening to the various symptoms associated with the entire range of diseases, found that he had them all, and was only puzzled by the one exception—his failure to show any symptoms of "housemaid's knee."

Before dismissing this reference, I must use it to indicate that the peculiar domain of the freudian psychology likewise illustrates the relation of a functional nervous disorder to a temperament, for its clientele is centrally that of hysterics. From the present approach they may serve as the other pole of nervous deviation. For despite their overlapping symptoms, the technic of normalizing an hysterical patient is quite the reverse of the normalization which is the cure of a neurasthenic. The masquerades of hysteria are a challenge to the clinician and force him to be an alert technician relying on objective tests, force him to treat patients as well as diseases. The psychoanalyst has directly aimed at establishing a relation of unreserve, of breaking down resistances, though it is an open question to what cases his technic properly applies. Whatever his technic, the clinician faces the task of establishing a combination of assurance, confidence and confession. It is something more than a confidential relation, which for that matter is shared by one's lawyer and one's bootlegger. Its peculiar quality in the doctor-patient relation is that it includes the frankness of discussion which breaks down reserve. The patient must somehow be induced to bare his psychic nakedness as he bares his body to the doctor's examination, and with equal absence of anxiety that he will lose social caste by the exposure. It is a confessional relation, and completes the circle in that it is confiding as well as confidence that removes fear. The friendliness of informality is one of the most potent salves. The doctor can well afford to lose his dignity to win his patient. To discover that even a doctor is human is a tonic. It is asking too much to require a patient to recover from an illness and from the doctor's visits also. The office atmosphere leaves something to be desired in the way of inducing a sympathetic approach; nor should the reading matter displayed in the dreary waiting room for the benefit of the impatient patients suggest that it has been selected for a peculiarly intelligent group of morons. Patients are not as critical as psychologists, but it won't do to forget that while the doctor looks at the patient the patient also indulges in the privilege of looking at the doctor. It is not altogether a one-sided clinic, and perhaps it is fortunate that patients do not keep a case-book. Health is a game that two must play.

RATIONALISM IN DOCTOR-PATIENT ATTITUDE

I have suggested that in the clinical relation there must be something of love as an offset of fear and something of faith as an assurance of confidence. But we have come on days when neither love nor faith is blind. Both have been rationalized, and it is the rationalism in the doctor-patient reciprocity that sets my concluding note. It is a far cry back to the medicine-man in the rôle of wonder-worker, imposing on as well as administering to the credulous. So complete is the change that a feature of our times is the syndicated doctor. Perhaps he has the largest practice of any of you, unless it be the unrecognized practitioners, who by appropriating first our common title, science, then your special one, health, introduced a new variety of keeping away from the doctor by the original device of absent treatment. The daily health column, despite its limitations, is a favorable omen of interest. It proceeds on the correct assurance that the health attitude of the people is a public concern. How far it contributes another variety of the game of keeping away from the doctor is open to question. Bringing health doctrines to the masses, if responsibly done, is an aid to rationalizing the doctor-patient relation. It is in another column of the newspaper, which, far from paying the doctor for his contributions, receives pay from the so-called doctor, that danger lies. The advertising doctor is so far from meeting the professional standard of reducing the need for his occupation that he employs the technic of fear to frighten his victims into illness in order to collect a fee for their ransom. I infer that these adepts are especially good life-insurance risks, as none of them are in the doctor business for their health. The exploitation of the fear of illness and the fear accompanying illness is a sorry business, proving how far we still have to travel on the road to rationalism, which is also the path to humanitarianism. The psychology of the fake doctor who is also the scarce doctor is as sound as its morality is rotten.

But the advertising menace tells only part of the story. The situation is far more complicated and more serious. It is because there is a parasitic body that copies the rational technic of its host that it becomes formidable. The pseudoscience surrounding medicine operates not in the slums but often among the imperfectly educated and announces discoveries startling in claims and with testimonials galore. This body of self-made specialists not merely profess to cure and offer testimonials with alphabetical decorations to their names and short-order diplomas, but they have all discovered a *system.* That's the magical word, the rationalist slogan of the modern medicine-man. Dr. Fishbein has branded them as no layman would dare, Medical Follies; and so abundant is the crop that he has issues a supplement of New Medical Follies. All this is the penalty of the malpractice of rationalization—not the little learning, but the false pretense of learning that is a dangerous thing.

The varieties of medical follies are a testimony to human ingenuity in devising irrational appeals to reason. Their grotesque manipulations and parodies of laboratory procedure are as elaborate as they are confusing. It is asking too much of the lay mind to resist their claims when doctors must use their critical powers to distinguish between truth and presumptuous error. Perhaps they reached their climax in the lucrative genius of the late Dr. Abrams, who set forth that, by physiologic reaction registered on royalty-bearing apparatus, he could establish a differential diagnosis between a Presbyterian and a Baptist. Some of the leaders and perhaps more of the followers of medical side-shows may be sincere but deluded, but the sincerity is dilute and the delusion pays. Where ignorance is so easily capitalized it may be folly .to be wise and poor. I am using the illustration to make clear the difficulties in rationalizing the doctor-patient relation. The patient is the public, and education in the health attitude is taking its place in our general program.

I must limit my reference to one phase of this menace, the menace of cults. Cults spread, like infections, from a series of centers, and the psychology of mental contagion, when there is poor intellectual resistance, gives great power to one enterprising crook or one energetic paranoiac to become the founder of a system of healing, from walking barefoot in the wet grass (which in these dry days may be an innocent compensation) to having the kinks taken out of or put into your spine, when the real trouble is above the ears.

But a still more pertinent reason for citing the medical follies is to indicate a further kinship of the doctor and the psychologist, in that their only rivals are the Psychologic Follies. Enlarge your Personality! Develop Your Hidden Powers! Overcome Hesitation! Be a He-Man! Aid your Memory! with Health thrown in free in each and every package of Success, and all in the name of Applied Psychology. Priests and Priestesses of the Personality and the Efficiency Cult gather huge audiences in all large cities, register pupils, confer certificates, gather shekels, and move on to pastures new.

Psychology and Medicine share this unsavory field of philanthropy that thrives with peculiar vigor on American soil. How to deal with health crooks and health cranks is no different a problem than how to deal with mind-crooks and mind-cranks. Prohibition has never been an ally of rationalism and, as often proposed, is but a skepticism of education which is the only salvation: to educate the average man out of the reach of fads and cults as well as crooks. That a sucker is born every minute is an arrangement of nature against which it is idle to protest. The sad thing is that a crook is born every hour to take advantage of his fifty-nine contemporaries; and as yet even doctors have not developed a selective birth control that will correct this proportion. Kittens have their eyes open after the first two weeks of life; the human prolongation of infancy into late maturity delays this ophthalmologic operation until far too late.

Toward the problem of rationalizing the health attitude of the patient, which is so much the same for doctor and psychologist that the two are threatened by the same menace, I have time to offer but one suggestion; and it is an ancient one. *Mens sana in corpore sano.* The Romans used the same word for bodily and for mental health; mental hygiene isn't as new as we think it. We still follow the same usage: Sanity and sanitation are derived from the same root; and I think it was Mark Twain who suggested that a doctor was just a more complicated variety of janitor or plumber. There is a wholesome, well adjusted attitude toward one's life work that is the combined issues of sanity of mind and sanity of body, as similarly we associate personal and moral cleanliness in a common hygienic principle. The dissipation of fear, the establishment of confidence, the cooperation of a rational view of the mechanisms of health, suggest an outline of clinical morale.

New and Nonofficial Remedies

BISMARSEN

Preliminary Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement. W. A. Puckner, Secretary.

Bismarsen is the name given by the Abbott Laboratories to a new derivative of arsphenamine containing bismuth and proposed for use intramuscularly in the treatment of syphilis. Bismarsen is the sodium salt of a bismuth derivative of arsphenamine methylene sulphonic acid (sulpharsphenamine), the exact structural formula of which has not been established.

A study of the therapeutic usefulness of Bismarsen has been made by Drs. Stokes and Chambers, who read a paper on this subject before the Section on Dermatology and Syphilology at the 1927 session of the American Medical Association. A summary of this report (based on study of 110 patients treated with the drug) was submitted to the Council by the authors. Their conclusions are, in substance, as follows: The drug is an effective spirillicide, meeting requirements for the protection of public health in this matter. A few patients (perhaps 6 per cent of those treated) cannot take it because of local reaction. Its immediate effect on the blood Wassermann reaction in early cases (i. e., influence on the infection as a whole) is comparable to that of standard combined treatments now in vogue, with the added advantage of greater simplicity and lower toxicity. The drug is well borne by children in adult doses (three cases, from 5 to 6 years; two cases, from 12 to 14 years). In all types of cases it seems to have marked tonic effects. The route of administration and relative freedom from Herxheimer effects make it an acceptable drug in cardiovascular syphilis. Its doubtful points thus far include its effect on the serologic picture in established neurosyphilis, for which the authors state that their material is insufficient for conclusion as yet, and its ability to reverse resistant positive blood Wassermann reactions and to hold negatives unaided.

The manufacturer has submitted two letters as evidence for the value of the product, one from Dr. John A. Kolmer of Philadelphia, the other from Dr. C. H. De T. Shivers of Atlantic City: Dr. Kolmer reported in an informal and preliminary way that he was favorably impressed with the drug from its use in the treatment of fourteen chronic cases, including three of congenital syphilis and four of acquired "Wassermann-fast" syphilis; Dr. Shivers reported in much the same manner his generally favorable impression from the use of a drug designated "X. Y. S." (presumably Bismarsen) in 140 cases including primary, secondary and tertiary syphilis. No formal case reports accompanied either of these letters.

A supply of the drug was sent to one of the Council's consultants, who makes the following report:

"It has been our object to study the effect of the drug on the spirochetes of local lesions, for, after all, this gives probably as good a criterion of the value of an antisyphilitic remedy as anything that we have.

"We have studied thirteen cases which have been in the hospital under closest observation, where we have been able to make dark-field examinations on the patients every day. The material has consisted of three patients with primary lesions, and the rest of them with mixed primary and secondary or secondary lesions of syphilis.

"Our technic has been to start with an injection of 0.1 Gm. and if the patient stood it all right, to give 0.2 Gm. and to use the remedy about every three days. With some of the later cases we used it even every two days and with some of them we raised the dose to 0.3 Gm. at an injection. The number of doses given in these thirteen cases varied, with extremes of three and twelve injections, and a median of seven injections; and the total amount of drug given has varied, with extremes of 0.5 Gm. and 2.2 Gm., with a median of 1.2 Gm.

"We have not noticed any symptoms of toxicity in connection with this preparation systemically, nor have we noted any evidence of skin eruption or evidence of a Herxheimer reaction following the injections, even in cases of secondary syphilis with marked generalized eruptions.

"As far as pains from the local injections are concerned, this was noted in quite a few instances, and in three of the patients this pain was very severe. We have a notation that one of the patients complained bitterly, and in two of the patients it was necessary to stop the injections, in one of them after three injections and in another after four injections; while still another patient complained that the pain was very severe for thirty-six hours after the injection. This was used in doses of 0.2 Gm., and not higher. Still another patient, whom we do not have down in this list of those that complained so bitterly, reported that with the first five injections there were severe pains, but with the last four the pain was not noted so much.

"*Results*.—In one patient with a generalized papulosquamous syphiloderm, with three injections, a total of 0.5 Gm., there was quite a good clinical result and the eruption seemed to clear up quite rapidly, including the condyloma, though the spirochetes did not disappear from them for seven days.

"In still another patient with a sparse papular eruption that was just beginning, the eruption seemed to have disappeared after about a week of treatment.

"*Disappearance of Spirochetes*.—In ten of the patients it was possible to follow the clinical results by examination for spirochetes in the local lesion, and these patients were followed daily and very careful examinations made. The spirochetes disappeared in extremes of three days and twelve days, with a mean of between five and six days.

CONCLUSIONS

"We believe that this preparation has a certain amount of merit, and there may be certain situations in which it would be of value to have some such remedy as this to fall back on."

The foregoing reports are obviously insufficient to form the basis of acceptance of the drug for New and Nonofficial Remedies. Further trial and confirmation are needed before more than tentative acceptance can be accorded. However, the generally favorable character of the reports together with the fact that Bismarsen is a chemical substance of controlled composition is sufficient to warrant its further trial by physicians, with due recognition of the fact that the drug is still in the experimental stage. The Council has, therefore, deferred acceptance of Bismarsen and authorized publication of this preliminary report.

For the information of those who desire to use this compound, the following description is published:

BISMARSEN.—Sulpharsphenamine Bismuth.—Bismuth Arsphenamine Sulphonate.—The sodium salt of a bismuth derivative of arsphenamine methylene sulphonic acid (the exact structural formula of which has not been established) with inorganic salts. It contains approximately 13 per cent of arsenic and 24 per cent of bismuth.

Actions and Uses.—For the treatment of syphilis. According to Stokes and Chambers, the drug is somewhat slower in its action than intramuscularly administered sulpharsphenamine or intravenously administered neoarsphenamine, but much more rapid than bismuth; and it has marked "tonic" properties. More or less severe pains at the site of injection have been reported.

Dosage.—Bismarsen is administered intramuscularly. The initial dose is 0.1 Gm.; for succeeding doses Stokes and Chambers used 0.2 Gm. each of the drug dissolved in ampule with 1 cc. of sterile distilled water at the time of administration, adding to the solution 2 to 3 drops of a 2 per cent solution of butyn. At the time of reporting, however, the authors questioned the desirability of using the local anesthetic. Weekly increasing to biweekly doses were used in treatment courses of twenty doses.

Manufactured by the Abbott Laboratories, North Chicago, Ill. U. S. patent 1,605,691 (Nov. 2, 1926; expires 1943). U. S. trademark applied for.

Bismarsen is prepared by adding a solution of potassium bismuth tartrate in water to an aqueous solution of 3,3' diamino 4,4' dihydroxarsenobenzene N,N' dimethylene sulphonate, dissolving precipitate with a measured quantity of sodium hydroxide solution, precipitating by pouring the clear solution into a methyl alcohol ether mixture, filtering off the precipitate and drying it in vacuo.

Bismarsen is a brownish yellow amorphous powder readily soluble in water, yielding a yellow solution which is slightly alkaline to litmus.

Add 2 cc. of diluted hydrochloric acid to 5 cc. of a 1 per cent solution of bismarsen: a white opalescence appears and dissolves almost immediately; a heavy white gelatinous precipitate develops in two minutes. Add 1 cc. of diluted nitric acid to 5 cc. of a 1 per cent solution of bismarsen: the solution gradually turns brown and yields a precipitate. Add 1 cc. of trinitrophenol solution to 5 cc. of a 1 per cent solution of bismarsen: no apparent reaction takes place (*distinction from silver arsphenamine and potassium bismuth tartrate*). Bubble hydrogen sulphide through a 1 per cent solution of bismarsen: the solution darkens immediately but no precipitate is formed. Add 5 cc. of hydrogen peroxide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution is at first turbid, then becomes a deep reddish brown with formation of a precipitate. Add 1 cc. of mercuric potassium iodide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution yields a greenish yellow opalescence, which in turn assumes a dirty green color on standing. Add drop by drop 2 cc. of a 40 per cent sodium hydroxide solution to 5 cc. of a 1 per cent solution of bismarsen: the solution gradually darkens without any formation of precipitate. Add 0.5 cc. of a 2 per cent silver nitrate solution to 5 cc. of a 1 per cent solution of bismarsen: a dark red solution is produced (*distinction from arsphenamine*). Add 1 cc. of a saturated solution of bromine in water to 5 cc. of a 1 per cent solution of bismarsen: the solution yields a greenish brown precipitate (*distinction from sulpharsphenamine,* [illegible] *and arsphenamine*). Add 0.5 Gm. of zinc dust and 5 [illegible] acid to 0.1 Gm. of bismarsen in a test tube, [illegible] hold a strip of filter paper moistened with 5 per cent cadmium chloride solution: the paper turns yellow in four minutes.

Transfer about 0.4 Gm. of bismarsen, accurately weighed, to a Kjeldahl flask, add 2 cc. of sulphuric acid and heat carefully; add 2 cc. of nitric acid a drop at a time, continue heating until brown fumes cease to be given off, cool and add water to make 120 cc.; if a white crystalline precipitate appears dissolve it with a few drops of hydrochloric acid; transfer to a 250 cc. beaker, add 7 Gm. of tartaric acid, neutralize with stronger ammonia water, add 10 cc. of magnesia mixture followed by 20 cc. of stronger ammonia water, allow to stand twelve hours, filter through a hard surface filter paper and wash the precipitate with 50 cc. of 2.5 per cent ammonia water, puncture the filter, transfer the precipitate into a 250 cc. beaker with washings, then add just sufficient hydrochloric acid to dissolve the precipitate, filter, wash the filter well with water, neutralize the filtrate with stronger ammonia water; add 1 cc. of magnesia mixture and 20 cc. of stronger ammonia water; allow to stand twelve hours; filter, using a prepared Gooch crucible; wash with 2.5 per cent ammonia water; dry at 100 C.; ignite at 700 C. for three hours; cool in a desiccator and weigh as magnesium pyroarsenate and calculate to arsenic: the arsenic content is not less than 12.50 per cent, nor more than 13.50 per cent. Transfer about 0.25 Gm. of bismarsen accurately weighed to an Erlenmeyer flask. Add 5 cc. of diluted sulphuric acid followed by 1 Gm. of powdered potassium permanganate, and 10 cc. of sulphuric acid in small portions; add just sufficient hydrogen peroxide to dissolve the brown precipitate; add 50 cc. of water; boil for twenty minutes; cool to 70 C.; saturate with hydrogen sulphide for twelve hours; filter using a prepared Gooch crucible; wash the precipitate with water, warm ammonium polysulphide, methyl alcohol, carbon bisulphide and acetone in the order named; dry at 100 C.; cool in a desiccator and weigh as bismuth sulphide (Bi_2S_3); calculate to bismuth: the percentage of bismuth found corresponds with the percentage of arsenic found multiplied by 1.86 (factor As to Bi in [illegible]Na_3S_2[illegible]Bi_2) plus or minus 0.5 per cent.

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SATURDAY, JULY 16, 1927

WAR GASES AND TUBERCULOSIS

Those who would remind us that "a very large proportion of the misery borne by mankind is man-made" turn nowadays to experiences of the World War for their illustrations. They cite the epidemics that have followed in the trail of the great combat, the unexpected awakening of diseases that have long seemed to be dormant, and the widespread dissemination of objectionable parasitic forms of life into regions where they have been practically unknown. All these features have furnished new jeopardies and increased the obligations of public hygiene. But the recent conflict also created some entirely novel health-disturbing situations that could scarcely have been foreseen. Notable among them were the effects of the so-called war gases. The distressing immediate symptoms of gassing with their excruciating torture left in their wake the possibilities of prolonged deterioration of health. Invalidism and a comparatively early death were expected as the aftermath of the use of the newest weapons of war.

When the toxic gases were thus introduced it was, as Koontz[1] has pointed out, the natural reaction of the layman, as well as of the physician, to believe that their effects on the lungs would cause a predisposition to pulmonary tuberculosis. This early conclusion, hastily arrived at before there were any facts available for affirming or denying it, Koontz adds, has remained largely fixed in the minds of laymen, and also in the minds of a considerable number of physicians. It was also expected that old tuberculous lesions might become reactivated. A decade of post-war clinical observation has, in general, failed to substantiate the quite natural early expectations. Many, probably most, of the critical examiners of the survivors of war gassing will agree with Meade's[2] conclusion that "a man is no more liable to tuberculosis as the result of gassing than is a man who has never been gassed." A similar conviction, voiced by many writers, was thus expressed by Francine:[3]

> It is inconceivable that gas (as it is, and not what so many people consider it to be, or what it may have been) could reactivate tuberculosis, and available statistics and majority expert opinion go to prove that it does not do so. This view is endorsed by French, British and other authorities.

The almost complete unanimity regarding the clinical observations is supported by additional direct experimental evidence. For example, Koontz, the pathologist of the Medical Research Division of the Chemical Warfare Service, has made extensive tests on suitable animals. They demonstrate clearly that rabbits gassed with phosgene, mustard and lewisite are not more susceptible to tuberculosis than are control animals inoculated at the same time with the same dose of bacilli. The gassing of animals that already have well developed tuberculosis does not appreciably accelerate the tuberculous process. There are even some indications of occasional protective or ameliorating effects of gassing on the tuberculous processes. It is thus fortunate, indeed, that some of the early discouraging expectations of the devastating effects of the war gases have not been realized.

THE LIMITATIONS OF SCIENCE

In a discussion of some current tendencies in the promotion of chemical research, Mendel[4] of Yale University has uttered a frank warning against certain possible dangers in the present-day undue vaunting of the contributions of science to the welfare of mankind. He reminds us that the recent popular exaltation of physics and chemistry is in part due to the help which these sciences in particular furnished in the prosecution of the World War. As a consequence the sciences have come to be regarded by many as forces to conjure with—potencies for affording a solution to almost any question that is presented to the devotees of science. Of course, as Mendel points out, men of science realize that they cannot answer the riddles of life or solve the problems of industry on command; yet the larger public is beginning to assume that in the scientific disciplines a little enthusiasm and well directed energy will inevitably furnish the required solutions.

The physician is not unfamiliar with a comparable attitude in relation to the medical sciences. Perhaps there is a real compliment to research medicine expressed in the confident hope that a well equipped laboratory with a devoted investigator can promptly overcome all the barriers that cross the path to knowledge. However, scientific progress usually represents slow growth. Even diligent protracted effort does not invariably lead to the desired goal. "Disappointment turns to disillusionment and then to distrust. When this occurs science is in danger of losing many an ardent admirer and perhaps not a few staunch supporters." It is not only the layman who is not inured to the frequent shortcomings of experimentation; the physician, too, may expect that a test tube or a beaker in the hands of a "laboratory worker" will surely give him the desired clue to some mystery of diagnosis; and like his untutored patient the practitioner may react with subsequent indifference to scientific methods if perchance the investigator has failed him a few times.

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[1] Koontz, A R War Gases and Tuberculosis, Arch Int Med 39: 833 (June) 1927

[2] Meade, R H The Late Effect of War Gas on the Lungs and Its Relation to Pulmonary Tuberculosis, J Missouri M A 19: 385 (Sept) 1922

[3] Francine, A P Tuberculosis and Poison Gas, Tr Nat Tuberc. A, eighteenth annual meeting, 1922, pp 261 264, New York M J 117: 25 (Jan 23) 1923

[4] Mendel, L B Some Tendencies in the Promotion of Chemical Research, Science 65: 559 (June 10) 1927.

The scientific worker must have his courage sustained. As Mendel has remarked, joyous as it may be to acclaim the triumphs of science, is it not also desirable to educate the auditors with respect to the ways and means, the trials and errors, by which alone continued and permanent contributions are assured? The recognition that knowledge is finite, that progress involves change, that traditional beliefs are subject to revision, needs to be promoted. In medical research, as in other fields of science, failure in one endeavor should lead to fresh effort and new attacks on the unknown. Those who are engaged in the work are quite as likely to be discouraged by the undue expectation of others as by their indifference.

VISCOSITY OF THE BLOOD IN SHOCK

Shock has been described as a condition in which there is more or less paralysis of the sensory and motor portions of the reflex arc, with profound disturbances in the circulatory system, subnormal temperature, and frequent and shallow respiration.[1] This formidable array of symptoms is not more portentous than the distressing phenomena encountered not infrequently in clinical experience. Although the subject can scarcely be said to have required new interest to promote its investigation, the medical problems of the World War focused attention on it. Perhaps the most significant outcome of the war-time investigations was the growing conviction that shock is not an *individual* entity. Whenever some single conspicuous etiologic possibility was critically considered, other causative factors would present themselves for equally serious recognition. They have been rehearsed from time to time in The Journal. Today it is probably reasonable to conclude that shock is due to a variety of causes, some of them, however, claiming a greater practical significance than others. One may read of hemorrhagic shock, anesthetic shock, toxic shock, nervous shock and, in particular, surgical shock, each demanding somewhat special consideration.

The symptoms of these various conditions may be differentiated into those of primary and those of secondary importance. The fall of blood pressure has always been a prominent manifestation, inevitably bringing with it a train of disagreeable sequences. The decrease in arterial tension may be attended by an accumulation of blood in the liver and larger veins of the abdomen, so that the condition has actually been referred to as a "bleeding into the veins of the abdomen." For this, failure of the vasomotor mechanism, "capillary poisons," and increased peripheral resistance, among other factors, have been held responsible. The most recent theory to strive for recognition has been formulated by Waud.[2] In an experimental study of anaphylactic shock as well as the shock resulting from injection of certain toxic agents, he has noted an unmistakable reduction in the viscosity of the blood. Ten years ago the late Sir William Bayliss[3] showed that a 30 per cent reduction in the viscosity of the blood, produced by a withdrawal of blood and its replacement by an equal amount of saline solution, is accompanied by the same percentage reduction in blood pressure. Waud argues that the reduction in viscosity causes the fall in blood pressure because of the fact that the less viscid blood passes through the small arterioles more readily, and thus the pressure and blood volume in the capillaries are suddenly increased. If the reduction in viscosity applies also to the endothelial cells of the capillaries, it may conceivably become a contributing factor in the production of edema in shock. There is experimental evidence to show that a lowering of the viscosity of the cell surface results in more rapid diffusion of substances through the cell. Accordingly it would be plausible, in Waud's opinion, to conclude that the initial lowering of the viscosity of blood in conditions of shock may be associated with a lowering of the viscosity of the surface layer of the endothelial cells of the capillaries, thus allowing a more rapid passage of the fluid contents of the blood into the tissues, and thereby increasing the amount of fluid in them.

TESTS OF CIRCULATORY FITNESS

The examination of the cardiovascular reactions of persons has become a conventional method of estimating something of their physical fitness. In the clinic the same principles have been applied to determine, for patients with circulatory deficiencies, the extent to which various forms of physical exercise may be warranted; likewise the improvement or the reverse that may attend the progress and treatment of the disorder. In the tests proposed by Schneider[4] of Wesleyan University the data employed are the pulse rates during recumbency and standing, the increase in the frequency of the heart beat when the standing and reclining postures are compared, the acceleration of the pulse rate by a standard exercise, the time required for the pulse rate to return to normal after the exercise, and the change in the systolic arterial blood pressure when a change is made from recumbency to standing. It is believed that a slow heart rate in recumbency and standing, with a small difference between the two, a slight acceleration of the heart rate in exercise, with a quick return to normal afterward, and a rise in the systolic arterial blood pressure on standing, are excellent health signs and that in the physically fit individual the heart and vasomotor system are, so to speak, tuned to a different pitch than in the unfit or unhealthy person.

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[1] Macleod, J. J. R.: *Physiology and Biochemistry in Modern Medicine*, St. Louis, C. V. Mosby Company, 1926.

[2] Waud, R. A.: Nature **117**: 487, 1926; Sudden, Transitory Reduction in the Viscosity of the Blood as a Cause of the Fall in Blood Pressure in "Shock," Am. J. Physiol. **81**: 160 (June) 1927.

[3] Bayliss, W. M.: Proc. Roy. Soc. **89**: 380, 1917.

[4] Schneider, E. C.: A Cardiovascular Rating as a Measure of Physical Fatigue and Efficiency, J. A. M. A. **74**: 1507 (May 29) 1920; Mil. Surgeon **52**: 18 (Jan.) 1923.

In her recent studies at the Harvard School of Public Health, Turner[5] demonstrated that even in healthy persons the change from a reclining to a quiet sitting or standing posture is attended by a fall in the circulatory minute volume. This implies a common lack of perfect adjustment to the increased needs of the erect position. Turner has described the essentially difficult task of the circulation as that of getting blood to, and not from, the heart. In the quiet erect position the usual aids to the return of blood to the right heart during exercise are lacking, there is no rhythmic muscular motion, and there is little increase of thoracic aspiration. On the other hand, because of gravity, there is a difficulty in the return of the large amount of blood below the level of the heart. It is possible that the vertical abdomen with its unsupported ventral wall may account for the unsuccessful return of blood to the heart at least in some persons.

The holding of a quiet standing position through a period of several minutes is a more difficult task than has been thought by many. Turner[6] has ascertained that persons are frequently found whose circulation adapts itself with apparent ease to strenuous exercise yet who find quiet standing more difficult, as is shown by their reactions both subjective and objective. The best circulatory adjustment, such as is observed in persons well trained physically, is one in which the minute volume of the reclining position is maintained during standing. Systematic comparisons of the outcome of Schneider tests and the new Turner tests, including records of the heart rate and blood pressure involved in the response to long standing rather than exercise, indicated a fair degree of parallelism between the scores. The essential mechanical difficulties involved in maintaining the erect position suggest that tests based on the change from reclining to a more or less prolonged period of standing still are likely to yield differential results quite as suggestive as the more commonly used comparisons of exercise versus rest. Persons who stand most easily and successfully from the standpoints of objective appearance and lack of fatigue are those in whom there is a slow rate and a relatively large pulse pressure, indicating a heart adequately filled between beats. Inadequately filled hearts attempt to maintain an adequate pressure by an increased rate. Thus the low pulse pressure and the rapid rate become indicative of a low output per minute. Exercise facilitates the maintenance of the circulation in the upright position. As Turner concludes, an entirely successful meeting of the circulatory demands of prolonged standing may be an achievement which is reached only by an apparatus capable of the most perfect and responsive adjustment to relatively slight stimuli.

Current Comment

FEE-SPLITTING QUACKERY

"Radithor" is one of the numerous pieces of quackery in the field of radioactivity. It is exploited by the Bailey Radium Laboratories of East Orange, N. J., the moving spirit of which is one William J. A. Bailey, whose past record with "patent medicine" concerns and a fake engineering corporation was dealt with in The Journal, January 29. The Radithor quackery consists of thirty half-ounce bottles of distilled water which is alleged to be radioactive. No less than thirty bottles can be purchased; and the price is $30. That is, the price to the sucker who happens to be a layman is $30; to the easy mark who can write M.D. after his name, it is $25. There are two order forms, one, the "Standard Order Form" that the layman fills out; the other, the "Special Order Form for Doctors' Use Only." This form states that "when patient buys direct, we allow doctor a $5 credit on all orders." The physician who would order Radithor must be weak not only in medicine but also in morals.

McCOY, HEALTH COLUMNIST

In *Hygeia* for August appears an analysis of the volume called "The Fast Way to Health," published by one Frank McCoy[1] in connection with a column of so-called health advice appearing daily in some newspapers. Dr. Hill, who is professor of bacteriology and of nursing and health of the University of British Columbia, calls attention to only a few of the more glaring crudities, medical and dietetic, that appear in the volume mentioned. McCoy is a chiropractor who now calls himself "Dr.," although he formerly headed a little private notion styled "physculpractic," presumably a combination of physical culture and chiropractic. The fact that such preposterous bilge as is contained in the McCoy opus and in the daily columns can be sold to the public is not astonishing in view of the alarming extent of ignorance of the human body and of its functions among our adult population. It is amazing, however, that editors—men supposed to have wide knowledge and a wide grasp of human affairs as well as sound judgment—would recommend the expenditure of real money for the piffle that characterizes the daily columns of health advice. Any editor who cared enough about the truth to inquire of his own state university faculty could with but little trouble find out the hopelessly fallacious nature of the statements made by McCoy and their danger in relation to the health of the public. True, Mr. Babe Ruth asserts that the McCoy statements are serviceable; but the care of a cancer of the lip is not at all the same procedure that is involved in whacking a horsehide covered sphere of rubber and twine with a four foot piece of lumber. Editors may plead public demand for the publication of the bogus diaries of Peaches Browning and the murderous Mrs. Snyder; such demand as exists for the McCoy fallacies is created by the editors themselves.

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[5] Turner, Abby H.: Am. J. Physiol. 80: 601 (May) 1927.

[6] Turner, Abby H.: The Adjustment of Heart Rate and Arterial Pressure in Healthy Young Women During Prolonged Standing, Am. J. Physiol. 81: 197 (June) 1927.

[1] Hill, H. W.: More McCoy Misinformation: The Fictions and Fallacies of "The Fast Way to Health," Hygeia 5: 405 (Aug.) 1927.

Association News

CONFERENCE ON PUBLIC HEALTH

Held in Chicago, March 24-25, 1927

(Concluded from page 123)

Economics of Public Health

Dr. John A. Ferrell, Director for the United States, International Health Board of the Rockefeller Foundation, New York.

This paper was published in full in the last issue of The Journal.

DISCUSSION

Mr. Barry C. Smith, Commonwealth Fund, New York: I suppose I have shown temerity to induce the Commonwealth Fund to enter the health field. Probably our lack of expert knowledge in the field was what led us to consult the expert and the physician. In our health demonstration program we have first a national board or committee, to which is delegated the specific directions. On that board we have five physicians, three of whom have had wide experience in public health. In approaching the question of establishing demonstrations in four local communities, in each case we have conferred not only with the local health board but also with the state board of health. In setting up the staff for those demonstrations we have in each instance put an experienced, trained public health physician, M.D., in charge, and since our point of departure was child health, we have placed the medical service in the hands of a competent and experienced pediatrician. In each case, when we have entered a community in order that there might be no misunderstanding, no friction with the practicing physician, we have early held conferences with the local medical society, and we have seen to it that the procedure to be followed in the educational and preventive work of the demonstration was acceptable to the local practitioner as represented in that society. So far as our particular demonstrations are concerned, we do not seem to have become involved in controversies as to whether the official or the voluntary health agency was to dominate or was to be subordinate. Each demonstration program has been considered not as a separate entity but as an adjunct and a part of the local health department program, and in every demonstration we have endeavored to develop the opportunity afforded the local health department, not only in the work it is doing but to the extent to which it feels it is able and desires to take over little by little the work the demonstration is doing. I think there has been a great deal of feeling (I do not mean feeling in an unpleasant sense) that the demonstrations of the Milbank Memorial Fund and of the Commonwealth Fund were spending perhaps more money than was justified because of the fear that the standard thereby set would be beyond the rest of the country. We know that when the public appreciates the value of particular material improvement, the money is forthcoming. I believe that the expenditures in the field of public health today, taken by and large throughout the United States, are as small as they are, not because the money is lacking to put on a complete program such as would really protect the health of the citizens of that area, but because the public has not yet become educated as to the importance of public health work. I expect to see the time when the average community in the United States is not going to question the expenditure of 25 or 50 or 75 cents but it is going to demand an expenditure of from $3 to $5 per capita.

Dr. Matthias Nicoll, Commissioner of Health, State Department of Health, Albany, N. Y.: Expenditures for public health are not what they should be, but I think Dr. Ferrell's statistics, certainly as regards my own state, give a false impression. New York State is in a unique position in that the care of the health of half the people of the state, numbering approximately eleven million, is under the state commissioner of health, and the other half under the New York City commissioner of health. The state legislature appropriates money almost solely for health work under the state commissioner of health and not for that in New York City. For that reason, in arriving at the per capita expenditure for public health in New York State, Dr. Ferrell should cut in two the population benefited, which would double the per capita expenditure as reported, and put us on a plane at least equal to Florida, or else add the appropriation for the New York City Health Department, exclusive of hospitals, which I believe is some three million dollars. This does not take into account the large sums spent in such cities as Syracuse, Buffalo and Rochester, which come out of the pockets of the taxpayers just as certainly as though they were appropriated by the legislature of the state. I think that if Dr. Ferrell will take into consideration all large local items expended for public health, the state of New York will come pretty near to heading the list of the states in respect to expenditures for public health purposes.

Dr. B. Franklin Royer, National Commission for Prevention of Blindness, New York: I may speak from my personal knowledge in Pennsylvania. Dr. Ferrell has specifically taken out of the appropriation that which is set aside for the tuberculosis work. In Philadelphia, Pittsburgh and Scranton and in the other large centers of population, there are practically no other expenditures of state funds.

Mr. James A. Tobey, American Public Health Association, New York: In connection with Dr. Ferrell's paper I should like to cite more recent statistics with regard to governmental expenditures. For the fiscal year 1926, ending June 30, the United States government appropriated for all public health purposes approximately $15,000,000, which is 0.5 per cent of the total national budget of approximately $3,000,000,000. As you can see, this sum amounts to approximately 12 cents per capita. The United States government still appropriates almost as much for animal diseases as it does for the public health of human beings. In 1926 it appropriated between $11,000,000 and $12,000,000 to the Bureau of Animal Industry, which sum is greater than the amount allotted to the United States Public Health Service alone, which gets around $10,000,000, of which only about $5,000,000, however, actually goes into public health work, for the rest is used for hospitalization and medical relief. The states as a whole probably appropriate about $45,000,000, that is, from official sources, including the state appropriations and those in counties and municipalities. In spite of the fact that public health under our form of government is primarily a state responsibility, the federal government appropriates one-third as much as all the states put together. Whereas the federal government appropriates $15,000,000 for public health, it appropriates $50,000,000 for medical relief, that is, for cure; in the states probably three times as much or more is appropriated for institutional work as for preventive medicine. Does it not seem reasonable that a little larger expenditure for preventive work, for public health activities, would result in a slightly less expenditure for relief?

Dr. Linsly R. Williams, National Tuberculosis Association, New York: I was interested in what Dr. Ferrell had to tell about the increase in the amount of money expended for health work. I feel convinced that if one would compare the increase expended for health work with the increase expended for almost any other branch of governmental activity, it would be found that in the other branches the increase had taken place more rapidly and was on a higher percentage basis than health work. The increase in 1919 from 63 cents to 82 cents in 1923 has not even kept up with the increase in the cost of obtaining service, which I think should indicate pretty clearly to health officers that the probabilities are the majority of their staff have not received an increase in salary commensurate with the increase in cost of living or diminution in the value of the dollar. I quite agree with Mr. Barry Smith that we have not begun to convince the people they can afford to spend a great deal more on health work, and give the health officers a fairly decent salary and a little more security of tenure of office.

Mr. James L. Fieser, American National Red Cross, Washington, D. C.: This discussion draws into the picture a third element that is directly concerned and may be called the raw material of this discussion; namely, the people who are ill and the people who wish to preserve health. It would be interesting if we could have a map which in various colors would indicate the degree of development of public health work and public health thinking in its various gradations. It would show the areas in which health facilities are nonexistent or where they are limited to the facilities of the private practitioner and the most elementary kind of hospital. One of the things that contribute to rural discontent is the fact that the facilities do not exist for the average citizen, Mr. Raw Material, in his community. What may we as agencies, public and private, and as individual representatives of a profession and as citizens do? Is that raw material something that could be harnessed up with some of these issues not in debate? This May if you go to Mansfield, Ohio, on a given date you will see literally thousands of people in town, probably 4,000 or 5,000 children in parade, with reviewing stands and bands and that sort of thing, on the subject of health. Every one of these children has been examined by physicians throughout the county, and each proudly wears its blue ribbon or whatever other index it might be, somehow epitomizing this thing. The child, for instance, that has been hesitant about a tonsillectomy is eager to have it. Of course, that goes back to the private practitioner. The child is eager to have the operation so it may participate in this parade. Of course that is show, but nevertheless it does indicate something of that potential force which in a measure we have neglected in America, that thing that represents this raw stuff, me, a layman, my wife, my child. Rotary, Kiwanis, the great orders of one kind or another, the Shrine and so forth, again with their particular grouping, constitute raw material which can be put into harness, if we have something positive to give. If we do not supply it they will initiate it themselves, because they are the victims, after all, of this whole thing. Perhaps increasingly, quietly, naturally, in national get-togethers like this, in state get-togethers and in our local and county get-togethers, representing the medical profession, health activities, the laymen of the United States and the average citizen, man, woman and child, we can begin somehow to do exactly what is shown on many of these maps and charts; namely, to increase the number of sections which carry the color indicative of a progressive thought and a united cooperative action.

Dr. S. W. Welch, Chairman, Alabama State Board of Censors and State Health Officer, Montgomery, Ala.: We ought to be congratulated on this array of statistical data which Dr. Ferrell has brought us, and there is only one phase of the question which I wish to debate, and that is the development of the poorer areas, the poor counties. That could be handled by increasing state appropriations to the point of establishing health organizations in those counties that were not able, for the time being, to establish them for themselves. It would be a wise policy, if we could all come to it, of the wealthy centers of the United States helping out those areas that are less fortunate.

Mr. John A. Kingsbury, Milbank Memorial Fund, New York: I think we would all agree with Dr. West that we should not go too fast in public health work and we should not spend too much money in any community on health demonstrations, but the two questions really are, What is too fast? and What is too much money? These are two things on which we should get together because the doctors have a different idea about them than the social workers have, and perhaps neither is right. One of the greatest demonstrations the Rockefeller Foundation has ever made endeavored to show what can be done in the poorer counties with a limited amount of money. You can get the people to spend more than they ever had any idea they could spend. I will say that practically every word Mr. Smith said concerning the policy of the Commonwealth Fund applies to the Milbank Foundation. Every move we have made has been made on the advice of the best medical men and the best health experts we could command. We are trying to find out how much a community can really afford to spend. We are trying not to spend more money than the people can eventually spend themselves. We trust we are not going too far or too fast. Let us have such a conference committee as Dr. Fisher has proposed, and find out.

Secretary West: When this conference was proposed, there was some correspondence with most of the health agencies of the country. It was clearly indicated in replies that came to our letters that some of them feared somebody was going to do something to them. That is why it was stated in the invitations sent out that there would be no voting. I can assure this body, however, knowing the Board of Trustees of the American Medical Association as I do, that they will be glad to have any suggestions that may be offered. I think Dr. Fisher's suggestion is a splendid one and it is eminently proper.

Dr. J. A. Ferrell, Director for the United States, International Health Board of the Rockefeller Foundation, New York: I anticipated the criticism of Dr. Nicoll. Of course the same criticism might come from Ohio. It has Cincinnati, Cleveland, Columbus and Toledo. California has San Francisco and Los Angeles. Any attempt to correct the figures for the various states so that the local expenditures would be excluded would prove more difficult than the task I undertook. The fact that New York City is not cared for by the New York state health department really bears out the trend of thought I was trying to bring out, that perhaps New York City really belongs to the nation. It is the principal money market; it is there that you have to have stocks transferred. Our principal shipments take place there. So New York is really a part of the nation, and I think we should so regard it. Likewise we might regard some of the other large centers of population as national rather than local assets. Dr. Welch, for example, might object to the figures for his state. I show only 8.3 cents per capita sent in Alabama, but if you will investigate you will find that more than 50 per cent of the population of the state are served with full-time county health organizations that are conducted under the general leadership and supervision of the state department of health, and toward the budget of each one the state health department makes a direct contribution; so that it is not practicable to make a complete analysis. It would be utterly impossible to take up every state and community and correct the figures. A certain amount of generalization is necessary. Representatives of certain agencies that are cooperating in the conduct of health demonstrations seem to feel they are accused of spending too much money. Much of the expenditure is for the collection of information, and there might have been less misunderstanding if these field investigations could have been designated as fact-finding field studies, rather than health demonstrations, because a considerable amount of money that is shown as per capita expenditure really goes into what is virtually research in the field of administration and application of existing knowledge to the control of disease. There has been some discussion here with regard to the relationship of physicians generally throughout the country with regard to health work. Of these 330 county demonstrations that have been established, I am more or less familiar with the conditions of approximately 200. Unless the leading local physicians had lent themselves freely and generously to aiding the health authorities, I do not believe the demonstrations would have been established. Generally the health officer, if he will present a sound program to the county medical society or to the leading members of the local medical profession, is able to get a group to go with him to the appropriating bodies of the county and get the necessary funds with which to inaugurate this work. It is a change of atmosphere to go from these counties, where these local physicians spend their time and ability and influence so generously in the establishment of some of these organizations, to certain business meetings at which the bugaboo of state medicine is so loudly cried. It does not fit in with the situation that we encounter locally. I believe some of these state health officers who deal locally with the medical organization will bear that statement out. With regard to what we are going to do in the future in regard to public health, many of us have hopes. In general, public health authorities have their feet on the ground. They are winning confidence; they are getting backing from the taxpayers, and the result in the public health movement may be cumulative. Our problems and difficulties are almost identical with those of the educators in developing a better system of public schools, and in that field they have found the problems are largely economical.

Dr. Linsly R. Williams, National Tuberculosis Association, New York: The health departments find difficulty in securing money for propaganda work, and if they do secure an appropriation of any size for health work, the pamphlets and leaflets are bound to advertise the name of the health officer. Some of our legislative bodies have become rather incensed with the notoriety gained by a few health officers and have summarily proceeded to discontinue or markedly cut down the appropriation. I do not see how it is possible, with that point of view, for health departments to get any large amount of money for educational work, and in the private associations they are limited, to a certain extent, by funds, and distribute literature frequently which they know is not printed in the best possible form and where illustrations are crude and not of the best type.

Dr. Morris Fishbein, Editor, The Journal of the American Medical Association and *Hygeia*, Chicago: The matter just brought up is one of the most important that can come before the conference. I am convinced on careful study of the matter, and not from a cursory impression, that much money is being wasted on printing by health officers, by state health officials, by voluntary health organizations and by national organizations of all types in the health field. More money is being wasted in printing than in perhaps any other form in which money is being wasted, and that even includes some of the large demonstrations. The printed material that comes across my desk as editor of The Journal and as editor of *Hygeia* indicates that a vast amount of material that is not going to be read is being issued by all sorts of organizations. The point made by Mr. Smith as to the sending and distribution of pamphlets is also important. In Chicago, Dr. Bundesen sends a letter to the mother one month after the birth of a child. This is a personal letter, announcing that one month has passed and that there are certain things to be taken into account. Another letter goes each month to the mother. In mingling with various groups about Chicago, in attending meetings of women's clubs and of all sorts of organizations, I have yet to find one group in which the discussion of health education was brought up in which the personal health literature had failed to make an impression. I mentioned yesterday a survey that had shown that there were more than 100 different books on the care of the baby during the first year published in the United States in the last three years. In those books the advice varies, from advice to begin artificial feeding at once, which everybody will agree is bad advice, to advice to fed the baby by the breast every three hours and oftener. In fact almost every possible difference in feeding the baby is brought out in these various pamphlets. Certainly the most important thing in all of this health propaganda work and health education work is in keeping public confidence, and public confidence cannot be kept when authorities, or those who presume to be authorities, disagree in simple matters. Recently in northern Minnesota the health official decided to immunize against scarlet fever every child in the community. He chose for the purpose of immunization a preparation that had not been passed on by any reliable authority as a reliable preparation. The response to this attempt was a series of letters from most of the physicians practicing in the community addressed to this office asking by what authority any public health official could immunize children against scarlet fever with a preparation not established. If one looks into the background of this situation, the probability is that a commercial house was trying to establish its scarlet fever antitoxin and persuaded the health officer to make the demonstration. This is the way in which this thing comes directly to the general practitioner in the field. He finds a divided group of interests trying to promote health education, and he is unable to make his decision as to how he shall act in his relationship to the matter. The only way to get his proper reaction is for the state health agency or the county health agency, the volunteer health agency and the physicians to get together, to agree as to the things that are to be taught, and to cooperate in putting the teachings into effect.

Chairman Heckel: Is there anything further? If not, I should like to say just a word or two for the members of the Board of Trustees of the American Medical Association who made this conference possible. They are highly appreciative of your generous response to the invitation and of your attendance at this conference of the altruism which prompted you to come here and participate in its proceedings and also for the high grade papers which were read and for the illuminating discussions which followed, and as you leave we will not say goodby but au revoir.

Dr. W. R. Redden, American National Red Cross, Washington, D. C.: I do not feel that this meeting has been at all one-sided. I think the visitors and the guests of the House of Delegates have greatly benefited by the conference. We therefore wish to express our appreciation to the House of Delegates for their invitation to the conference and for their hospitality during the meetings.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Personal.—Drs. John C. King, Pasadena, and Robert F. Rooney, Auburn, have been elected honorary members of the California Medical Association.——Dr. Raymond J. Strugel has been appointed health officer of Signal Hill ——Dr. Samuel B. Randall has been appointed health officer of Santa Cruz County to succeed Dr. Alfred L. Phillips.

Medical Golf Association.—There were ninety-eight members, including families and guests, in attendance at the tournament of the South California Medical Golf Association at Lake Arrowhead, June 25-26. Prizes were won by Drs. Earl W. Wells, Los Angeles, Charles Sidney Stevens, Santa Barbara, and John Vruwink, Walter R. Crane, William H. Kiger and Oliver W. Butler, Los Angeles. Prizes for the low net score for the year 1927 are to be presented in the form of two cups each about 40 inches high. There will be four other cups presented also, practically all of them on handicap, so that every member of the association has an equal chance to win, provided he plays in at least six tournaments during the year. This association will play the North California Medical Golf Association, September 24-25, in the northern area. There are now 175 members in the southern association.

COLORADO

Progress of School of Medicine.—During the three years that the University of Colorado School of Medicine has occupied its present location at Denver, the two hospitals have been filled to capacity and applications of students for admission to the school have exceeded the capacity. The class of fifty-six students entering last fall was selected from 119 applications, and 175 additional applications were received after the class was filled. The freshman class will be limited to seventy-five students. There is now a tax of one-tenth mill for the school of medicine, which puts the school on a sound financial basis, making it unnecessary to ask for support from the General Education Board, which, for three years, has contributed $50,000 annually toward running expenses. The millage tax also makes it possible to place the heads of all full-time departments on a twelve months basis instead of a nine months basis as at present. The clinics at the Colorado General Hospital and the Psychopathic Hospital are open at all times without charge to visiting physicians, and special courses for graduates are being outlined for the summer. Since the general hospital opened in December, 1924, a total of more than 6,000 patients has been admitted from fifty-seven of the sixty-three counties of the state. The school of medicine does not now make a special appeal for funds Its friends should know, however, that through special gifts or provisions in wills, medical research and education in the state can be encouraged. Endowments for student scholarships can be established with gifts of $3,600 each, endowments for research scholarships, with from $10,000 to $20,000 each; endowments for special clinics, with from $10,000 to $15,000 each, and an endowment for medical research, with from $100,000 to $200,000, the income to be used in aiding any department conducting promising original work

DISTRICT OF COLUMBIA

Two per Cent of Drivers Found Color Blind.—The introduction of a colored lighting system as a means of controlling the automobile traffic in the District of Columbia has disclosed that 2 per cent of the persons seeking permits to drive an automobile are color blind, and unable to distinguish the green from the red light Accordingly, the district traffic bureau has adopted the policy of refusing to grant permits to drive to such persons, as the colored lights serve only to confuse them and to increase the possibility of accidents.

FLORIDA

Hospital News.—The district hospital being constructed on Orange Avenue, Daytona Beach, is now under roof and will be ready for occupancy about January 1——The construction of the $150,000 Alachua County Hospital at Gainesville is under way

Society News. — Dr. William E Van Landingham was elected president of the Palm Beach Academy of Medicine, May 25; among the speakers at this meeting was Dr Bailey B Sory, Jr, Lake Worth, whose paper was on "Uterine Fibroids"——Dr Howard A Kelly, emeritus professor of gynecology, Johns Hopkins University School of Medicine, Baltimore, addressed the Pinellas County Medical Society, recently, on emergencies in gynecology, Dr Kelly, who is spending his vacation in Orlando, has presented property to Orange County for a public park, according to the *Journal of the Florida Medical Association*——The Dade County Medical Society held a banquet, May 6, in honor of Dr. John A. Simmons; among others, Dr Walter C Jones, Jr, read a paper on "Pelvic Infections"

Chicago

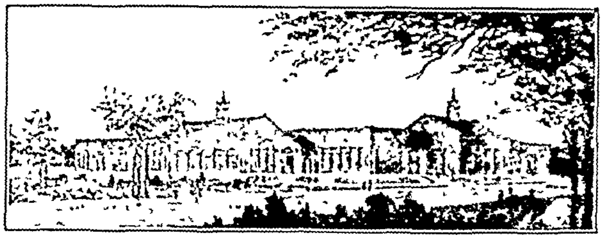
Thirty-Three Unlicensed Cultists Fined. — Thirty-three unlicensed cultists of Chicago were fined in Judge Hamlin's municipal court, July 8, on charges of practicing without a license Many of the cases had been pending since last October *The following chiropractors were fined $500 each:*

J E Teal, 2533 Milwaukee Avenue
Carl A Upson, 1105 East Sixty-Third Street
L E Pearson, 400 Irving Park Boulevard
Walter J Nowak, 4652 South Ashland Avenue
John Nowak, 1224 Milwaukee Avenue
Peter Sumaitis, 4652 South Ashland Avenue
A. M. Galbraith, 5814 West Chicago Avenue
Gertrude J Bogard, 3318 Lawrence Avenue
A J De Roeck, 3153 Lawrence Avenue
"Dr" William Karl, 4750 Broadway
Asa P Dyer, 4950 Milwaukee Avenue
Mrs Asa P Dyer, 4950 Milwaukee Avenue
Ira G Brown, 2501 North Kedzie Avenue
"Dr" Patrick J McCarthy, 2216 Jackson Boulevard

The following naprapaths received fines of $100 each:

Robert L Orrick, formerly 130 North Wells Street, has left the state
F A Manelis, 6117 South Talman Avenue
Louis A Rose, 501 South Crawford Avenue
J. Francis Doherty, 159 North State Street
A G Schlesinger, 159 North State Street
H A Riley, 159 North State Street
C E Kerrick, 159 North State Street
Lenore Yates, 159 North State Street
Lester Gill, 159 North State Street
Olive Harvey, 159 North State Street
Jennie Bowman, 162 North State Street
Helen Woodgate, 108 North State Street
William Stelling, 108 North State Street
Wallace Severance, 108 North State Street
A G Yancey, 108 North State Street
James E Taylor, 7912 South Halsted Street
Ira C. Atherton, 4554 Broadway
Albert Murry, 5206 West Chicago Avenue
Charles L. Lamon, 360 North Laramie Avenue

New School for Crippled Children.—The latest addition to the schools for crippled children of Chicago is the Walter S. Christopher School for Crippled Children which was opened, January 17. It occupies the entire block between Fiftieth and Fifty-First streets and Artesian and Campbell avenues, and was erected at a cost of $492,000. The building is designed especially for the care of crippled children; it is one story high, of modified Spanish architecture, and has a court with spacious lawns and playgrounds, eight porches, ramps for those who use wheel chairs, and provisions for 500 pupils. The board of education arranges for the transportation of the crippled children to hospitals, clinics and to the parks and other places of amusement, and provides them without charge with the midday meal. The principal of the school, Anna Henry, states that the physical care and corrective treatment of these children takes first place in the school's program. Parents are requested to give permission when a child enters the school for him to be taken to any necessary hospital, clinic or physician for examination or treatment. If the child is not already under the care of a private physician, he is taken promptly to an orthopedic surgeon for examination, and tuberculous cases are taken to the Municipal Tuberculosis Sanitarium dispensaries for examination. Regular school physicians call at the school to give routine examinations and to prevent outbreaks of contagious disease. The Chicago Heart Association sends a physician a half day a week to supervise the cardiac cases, while the corrective therapy recommended is carried out by the staff at the school, comprising three physical therapists, appointed by the board of education, a nurse furnished by the Visiting Nurse Association, and another furnished by the Municipal Tuberculosis Sanitarium. There is a special speech teacher who works one day a week with children who have speech difficulties, and a teacher is assigned to visit the homes of the children to secure the cooperation of parents. Necessary operations are arranged for through the social service departments of the hospitals, and the best orthopedic surgeons give their services in the needy cases. Wheel chairs, crutches, braces and so forth are either given free or on easy payments through private funds. The educational program emphasizes occupational therapy and vocational training fitted to the peculiar handicap of the pupil. There is an assembly hall where the children drill and play and thus develop muscle control. In addition to the Walter S. Christopher School for Crippled Children, Chicago has the Spalding School on Maple Avenue, west of Ashland Boulevard and adjacent to the Home for Destitute Crippled Children, and rooms set aside in two other schools for the care of crippled children.



IOWA

Appointments at Iowa.—Dr. Dorothy S. Dimond, formerly assistant anesthetist, has been appointed chief of the anesthesia department of the State University of Iowa College of Medicine, Iowa City, effective, July 1. Dr. Dimond is a graduate of the University of Minnesota Medical School, Minneapolis, 1922. Dr. Homer W. Scott, Fort Dodge, has been appointed assistant professor in the department of surgery. Dr Scott graduated at the state medical college in 1919, and was formerly connected with the department of surgery for about three years

Keokuk Alumni Meeting.—The alumni of the three medical colleges, formerly located at Keokuk, held a joint meeting, June 9, which was attended by 244 out of the 907 living alumni of these schools whose addresses are known. In addition there were in attendance many families, making a total of more than 700 who were entertained by the physicians of Keokuk at the country club. It has been nineteen years since the last class graduated and the college merged with the State University of Iowa Medical Department. Officers were elected and another meeting will be held in June, 1928

LOUISIANA

Personal.—Dr. E. W. Alton Ochsner has been appointed senior surgeon to the Charity Hospital, New Orleans, succeeding in that position Dr. Rudolph Matas.——Drs. Daniel R. McIntyre and Dorf Bean, Shreveport, have been appointed local medical examiners for airplane pilots by the U. S. Department of Commerce.——Dr. Henry W. E. Walther has resigned as editor of the *New Orleans Medical and Surgical Journal.*

Full-Time Organization in Surgery at Tulane.—The president of Tulane University announced at the ninety-third annual commencement, June 8, that the General Education Board has appropriated $150,000 to inaugurate a full-time organization in surgery in addition to the annual appropriation of the board of about $35,000 for the school of medicine. Other donations announced were an anonymous gift of $7,500 for the department of medicine and another anonymous gift of $9,750 and $15,000 from the General Education Board for the current expenses of the medical school.

The Fifes Were Pardoned.—The state pardon board granted a pardon, June 15, to chiropractors Joseph B. and Walter W. Fife, New Orleans, who were convicted a few years ago of practicing without a license, sentenced to thirty days in jail and the payment of a fine. The case was appealed until it reached the supreme court of the United States, and in each instance the decision of the lower court was sustained. The lieutenant governor of the state expressed his belief that the Fifes should be freed, the trial judge agreed to remit the sentence and the attorney general consented to the pardon. A petition with several thousand signatures was presented also. (THE JOURNAL, July 5, 1924; Nov. 1, 1924; Dec. 18, 1926.)

Hospital News.—The Baptist Hospital, Alexandria, is conducting a campaign for $100,000 to increase the bed capacity from 60 to 100, and to construct a new nurses' home.——Mercy Hospital, New Orleans, dedicated a new $250,000 wing, May 24, giving the hospital an addition of forty-one private rooms and six small wards, making the total capacity 117 beds. Mercy Hospital, which was first opened in 1924, was made possible by the gift of the buildings and grounds and an endowment of $160,000 by Mrs. Leonce M. Soniat.——The recent "strawberry week" for the benefit of the Charity Hospital, New Orleans, totaled about $3,150; it is expected that the drive "give a crate week" will become an annual event as a result of the success of the first venture.

MAINE

Rural Hospital for Farmington.—The Commonwealth Fund, New York, announces that the third of its series of rural hospitals will be erected at Farmington, Maine, a town of about 3,200 people, in a valley extending about 70 miles south of the Canadian border in the Rangeley Lake region. As with the other rural hospitals of the Commonwealth Fund, the local community will contribute about one third of the cost of the hospital and will assume the operating expenses. The fund will provide about $140,000 toward the cost of the construction of the fifty bed hospital, which will serve a wide range of surrounding country. About fourteen communities in eight states formally applied for the opportunity to build a hospital in connection with the fund. Farmington was chosen after a thorough study of the local needs and resources of each of these communities. Last year, similar arrangements were made by the Commonwealth Fund to build hospitals at Glasgow, Ky., and Farmville, Va.

MASSACHUSETTS

Personal.—Dr. George T. O'Donnell, Boston, has been appointed director of the tuberculosis division of the Boston City Health Department.——Dr. Henry P. Walcott, Cambridge, received the honorary degree of doctor of laws from Harvard University at the commencement, June 23.

Harvard Alumni Meeting.—About 100 alumni of the Medical School of Harvard University attended the annual meeting of the association at the school, June 22; the president, Dr. Philemon E. Truesdale, Fall River, presided. Among the speakers were Drs. Elliott C. Cutler, professor of surgery at Western Reserve University School of Medicine, Cleveland, and Elliott P. Joslin.

Orange Chiropractors Fined.—Glenton Thompson, a chiropractor of Orange, was found guilty in court, June 3, of practicing medicine without a license and was fined $300; he appealed. Hayden W. Allen, a chiropractor, was found guilty in the court at Orange, June 10, of practicing medicine without a license and fined $500; he appealed. Both these men are said to be graduates of the Palmer School of Chiropractic, Davenport, Iowa.

Dr. Arnold Appointed to State Board.—Governor Fuller appointed Dr. Horace D. Arnold, Boston, a member of the state board of registration in medicine, June 22, to succeed the late Dr. Charles E. Prior. Dr. Arnold, a graduate of the Medical School of Harvard University, was for several years a member of the House of Delegates of the American Medical Association, and later a member of the Council on Medical Education and Hospitals. He is a veteran of the World War, and was one of the original members of the National Board of Medical Examiners. For many years he was a teacher at the Harvard University and Tufts College medical schools.

Memorial Infirmary.—The Massachusetts Institute of Technology, Boston, is to erect a $150,000 infirmary to be named in honor of Richard Homberg, whose parents have made a gift of $100,000. The building will be four stories, forming a wing from the present main building near the Massachusetts Avenue side. The present infirmary will remain as the entrance to the new infirmary building. There will be two wards of five beds and four private rooms on the second floor; an isolation ward, operating room, kitchen, sterilizing room and a solarium on the fourth floor, and examination rooms, dressing rooms and offices on the first floor. Dr. George W. Morse, Jr., is the medical director and head of the department of hygiene at the institute; Dr. Louis W. Croke, assistant medical director, and Dr. Benjamin E. Sibley, assistant in the department.

MINNESOTA

Personal.—Major Roger Brooke, Jr., Medical Corps, U. S. Army, is spending three months at the Mayo Foundation, Rochester.

State Medical Election.—At the annual meeting of the Minnesota State Medical Association, Duluth, June 30-July 2, Dr. Charles B. Wright, Minneapolis, was elected president; Drs. Charles Bolsta, Ortonville, and Adolph G. Liedloff, Mankato, vice presidents; Dr. Earle R. Hare, Minneapolis, treasurer, and Dr. Edward A. Meyerding, St. Paul, secretary. The newly elected delegate to the American Medical Association is Dr. Jennings C. Litzenberg, Minneapolis, and the alternate, Dr. William F. Braasch, Rochester.

Hospital News.—The Webber Hospital, Duluth, erected at a cost of $200,000, was expected to be ready for occupancy in April.——A meeting was held at Rochester, June 28, to consider the need for a tuberculosis sanatorium in south central and eastern Minnesota. The entire boards of the county commissioners of Houston, Fillmore, Mower, Freeborn and Olmsted counties were present, and Steele County was represented by two members; many other interested persons attended the meeting. The facilities of the Mayo Clinic were tendered for the use of the district for this purpose. Another meeting was called for July 6 at Austin of all county commissioners of the counties mentioned, as well as others interested, to consider the question of making a tax levy to build a sanatorium for this district.

Annual Registration of Physicians Required.—All persons who were lawfully authorized to practice healing in Minnesota at the time that the Basic Science Act became effective will be granted a certificate without examination from the State Board of Examiners in the Basic Sciences, provided they apply to the secretary of the board for a certificate on or before Oct. 1, 1927, and present satisfactory evidence of having been lawfully authorized to practice healing before the act became effective. Such lawfully authorized persons who fail to apply for a certificate prior to October 1, may, at the discretion of the board, after paying a fee of $25, be issued a certificate of registration in the basic sciences at a later date. Another provision of the medical practice laws of Minnesota requires every person authorized to practice healing, and not excepted from the act, to register in January of each year with the secretary of the board of examiners which licensed him to practice, sending to the secretary his name and office address, and paying a fee of $5 for the years 1928 and 1929, and thereafter each year a fee of $2. The secretary will then issue a certificate for the current year which the registrant will display in a conspicuous place in his office. The present organization of the Minnesota State Board of Medical Examiners is as follows: Dr. Leon A. Barney, Duluth, president; Dr. Charles L. Sherman, Luverne, vice president; Dr. Alfred E. Comstock, St. Paul, secretary-treasurer, and Drs. Edward T. Sanderson, Minnesota, George B. Weiser, New Ulm, Charles E. Caine, Morris, and Julian F. DuBois, Sauk Centre, members.

NEBRASKA

Veteran Physicians Honored.—The Richardson County Medical Society gave a dinner, May 4, in honor of two veteran members, each of whom has been in the practice of medicine fifty-one years: Dr. John A. Waggener, Humboldt, and Dr. John C. Shepherd, Rulo. Dr. Waggener has three sons who are physicians, and Dr. Shepherd has one son who is a physician and is now president of the Richardson County Medical Society.

Society News.—Dr. Gladys R. Henry Dick, Chicago, recently addressed the Phi Beta Phi banquet at Lincoln, and also the staff of the Lincoln General Hospital at a dinner. ——Dr. Harry Benson, Oakland, was recently elected president of the Nebraska Academy of Ophthalmology and Oto-Laryngology at the fourteenth annual meeting in Lincoln. ——Two hundred and forty-seven premedical students from various schools in Nebraska were guests of the University of Nebraska College of Medicine in May at its annual premedical exercises.

NEW JERSEY

Medical Director Appointed.—Dr. Edward M. Z. Hawkes was appointed medical director of the Presbyterian Hospital at Newark, June 16, to succeed Dr. Samuel E. Robertson, who resigned after fifteen years' service and was made medical director emeritus.

Hospital News.—Edward T. Bedford has made a gift of a new unit to the Norwalk General Hospital, Norwalk, Conn., to cost not more than $500,000. Mr. Bedford is president of the hospital association, and chairman of the board of the Corn Products Refining Company.

State Medical Election.—At the annual meeting of the Medical Society of New Jersey, Atlantic City, June 9-11, Dr. Walt P. Conaway, Atlantic City, was elected president; Drs. Ephriam R. Mulford, Burlington; Andrew F. McBride, Paterson, and George N. J. Sommer, Trenton, vice presidents; Dr. Elias J. Marsh, Paterson, treasurer; Dr. John B. Morrison, Newark, recording secretary; Dr. William J. Carrington, Atlantic City, corresponding secretary, and Dr. Henry O. Reik, Atlantic City, editor of the journal and executive secretary.

NEW YORK

Health at Yonkers.—Telegraphic reports to the U. S. Department of Commerce from sixty-eight cities with a population of about 30 million, for the week ending July 2, indicate that the lowest mortality rate (5.7) was for Yonkers and that the rate for the group of cities as a whole was 11.7. The mortality rate for Yonkers for the corresponding week last year was 7.2 and for the group of cities, 11.7.

District Society News.—At a meeting of the executive committee of the First District Branch, Cornell Club, New York, June 7, it was decided to hold the next annual meeting, October 20, in the Bronx.——The executive committee of the Second District Branch, met, June 7, at the Shinnecook Hills Golf Club, Southampton, and decided to hold the next annual meeting of the branch in Jamaica in October in a hall "near the railroad station." It was also agreed to invite several leading scientists to read papers.——The executive committee of the Third District Branch met at the University Club, Albany, June 1, and decided to hold the next annual meeting of the branch, October 1, at Troy; the program will consist of a series of clinics at the local hospitals, followed by a luncheon at the new Hendrick Hudson Hotel, and scientific papers.——The executive committee of the Fourth District Branch met at Glens Falls, June 9, and decided to hold the next annual meeting at Schenectady, October 11-12; the program will include a series of clinics at local hospitals and at the General Electric Company plant in the afternoon of the first day, and a banquet and scientific papers the next forenoon; it was also agreed that a discussion of postgraduate courses and periodic physical examinations, among other topics, should be included on the program.——The executive committee of the Fifth District Branch met at Syracuse, June 2, and decided to hold the next annual meeting of the branch at Syracuse, October 13, the Onondaga County Medical Society acting as hosts. Among other subjects suggested for the program were "Postgraduate Education" and "Public Relations."——The executive committee of the Sixth District Branch met at Ithaca, May 25, and decided to hold the next annual meeting of the branch, September 27, probably at Johnson City, the Broome County Medical Society acting as hosts. It was decided to include on the program demonstrations of periodic health examinations and of the medical work of the Endicott-Johnson Shoe Company, and to invite two outstanding men in medicine and surgery to read papers. ——The executive committee and presidents of the component county medical societies of the Seventh District Branch met at Geneva, May 24, and decided to hold the next annual meeting of the branch, September 29, either at Geneva or at Clifton Springs, to invite several prominent men to read papers and to have a widely known speaker discuss period health examination methods and demonstrate the manner of making and reporting the examinations.——The executive committee of the Eighth District Branch and some of the presidents of the component county medical societies met at the University Alumni Club, Buffalo, May 26, and decided that the next annual meeting of the branch should be at Glen Ayr, October 6. It was suggested that Drs. William S. Thayer, Baltimore, President-Elect of the American Medical Association, Charles Gordon Heyd, New York, and Charles W. G. Crampton, New York, be invited to read papers.

Report on Relation of Physicians and Health Agencies.—The joint committee appointed by the Medical Society of the State of New York and the State Charities' Aid Association to study working relationships between the medical profession and voluntary health agencies has made a report. The committee has held several meetings since January, each of which occupied the better part of a day. The report was unanimously adopted by the house of delegates of the state medical society, May 29, and has been approved by the board of managers of the State Charities' Aid Association. It is not submitted as a final solution of the questions involved, but is regarded as a document with which medical organizations and voluntary health agencies at present may work in full accord. The joint report recommends that county medical societies include the following in their programs:

(*a*) Accept the invitation from the voluntary health agency to designate certain of its members to serve as members ex officio on the board of directors or executive committee of the voluntary health agency.

(*b*) Study and consider any program of activities that may be referred to it by the voluntary health agency for information and suggestions; and, if such program is approved, make a public statement to that effect, and otherwise support the program so approved.

(*c*) Appoint a special committee on public relations to confer from time to time with similar committees appointed by the voluntary health agency on matters of mutual interest to both agencies.

(*d*) Report to the state medical society any matter as to which an accord has not been reached with the voluntary health agency, in the hope that through conference between the state medical society and the parent body of the voluntary health agency any such matter may be negotiated and adjusted to the mutual satisfaction of all concerned.

The report recommends with regard to the voluntary agencies that they include the following in their program:

(*a*) Invite the county medical society to designate a certain number of its members, say two, to become members ex officio of its board of directors or executive committees, if there be one.

(*b*) Lay its annual program of activities before the county medical society for information and suggestions.

(*c*) Appoint a special committee to confer with a similar special committee appointed by the county medical society about matters that come up from time to time in which both groups are mutually interested.

(*d*) Report to the parent body of the voluntary health agency any matter as to which an accord has not been reached with the county medical society, in the hope that through conference between the parent body of the voluntary health agency and the state medical society any such matter may be negotiated and adjusted to the mutual satisfaction of all concerned.

(*e*) Conduct at least one open meeting each year to which the members of the county medical society are specially invited.

The state medical society was represented on the joint medical committee by Dr. George W. Cottis, Jamestown, chairman; Dr. Wilber G. Fish, Ithaca; Dr. William Warren Britt, Tonawanda; Dr. Thomas P. Farmer, Syracuse; Dr. Terry N. Townsend, New York, with Dr. George M. Fisher, then president, and Dr. Joseph S. Lawrence, executive officer, as members ex officio. The State Charities' Aid Association was represented by Dr. Livingston Farrand, Ithaca, chairman; Homer Folks, Yonkers; John A. Kingsbury, Yonkers; Dr. Herman G. Weiskotten, Syracuse, and Dr. Linsly R. Williams, New York, with George F. Canfield, president, and George J. Nelbach, executive secretary of the state committee on tuberculosis and public health, as members ex officio.

New York City

Hospital News.—A fund is being solicited to build and endow the Gotham Hospital of East Fifty-Sixth Street. Three million dollars is needed for endowment, so that the charges for patients of small income may be kept low. The staff will be composed entirely of women physicians; nurses, the *New York Medical Week* states, will be on an annual salary of $1,800. Each patient will have a separate room, and there will be no free treatment.

Personal.—Dr. Richard Kovacs is the director of the new department of physical therapy at the New York Polyclinic Medical School and Hospital. The department will serve for postgraduate teaching of physicians and nurses, and for clinical work in connection with a general hospital.——Dr. William W. Blackman recently received a "gold diploma" to commemorate the completion of his fiftieth year in the practice of medicine.——Dr. Jacques S. Uhr has been appointed assistant in pediatrics at the Knickerbocker Hospital.

University News.—Ninety-six graduates of Columbia University College of Physicians and Surgeons received medical diplomas at the commencement, June 1. The Dr. William Perry Watson prize for notable work in gynecology and pediatrics was awarded to Walter F. Duggan, Monson, Mass., and the Harold Lee Meierhof Memorial prize for research in pathology was awarded to Sylvan E. Moolten, Rockville Center, New York.——The Long Island College Hospital presented diplomas to seventy-one graduates in medicine at the commencement, June 2.

Society News.—The Kings County Medical Society has been requested to prepare plans for a health center for Coney Island; a gift of $50,000 by Mr. Morris Goldberg is available for the establishment of a health center.——The Harlem Tuberculosis Institute of the New York Tuberculosis and Health Association is conducting its fifth annual postgraduate course for the negro physicians from June 15 to August 3 at the Tuberculosis Division, Bellevue Hospital. The lecturers include Drs. Iago Galdston, George G. Ornstein, Foster Murray, Grant Thorburn, James A. Miller, Edward P. Eglee and Catherine R. Kelley. The lectures will be illustrated with clinical material.

OKLAHOMA

Use of Title "M.D." Constitutes Practice of Medicine.—In the case of *Reeves* v. *State*, the Oklahoma Criminal Court of Appeals recently upheld the constitutionality of the state medical practice act. John T. Reeves of Carter County had been found guilty by a lower court of practicing medicine without a license, in that he unlawfully appended to his name the titles "Dr.," "M.D.," "Specialist." Reeves contended that the medical practice act in its entirety was unconstitutional. The appellate court disposed of this contention with the statement that the power of the legislature to enact reasonable regulations for the protection of the public health was well settled, citing several Oklahoma cases in which the constitutionality of the act had been upheld. Another contention put forward in behalf of Reeves was that section 12 of the act was unconstitutional because it declared the use of the titles "Dr." and "M.D." to be evidence of practicing medicine without also requiring evidence that the alleged violator had attempted to treat disease. The court remarked in this connection that no case had been brought to its attention to uphold this contention; that the section referred to appeared to be an expression of the legislative intent to broaden the definition of the phrase "practice of medicine," and that the right of a state so to determine and define what constitutes the practice of medicine was well settled. So long as the statutory definition incorporates acts which in any substantial sense means the practice of medicine the statute will be upheld, the court stated. In the opinion of the court, assuming to practice by affixing or prefixing appellations to the name in a medical sense is sufficient to constitute the offense. Reeves filed a motion for a rehearing in the case.

PENNSYLVANIA

Personal.—Dr. Edward H. Rynearson, Mercy Hospital, Pittsburgh, was awarded first prize in the case report contest of the Allegheny County Medical Society; his subject was "Peritonitis and Acute Toxic Neuritis."——Dr. L. C. Owen Han, Ningpoo, China, died, January 16, at his home. Dr. Han took a year of postgraduate work at the University of Pennsylvania School of Medicine, and was an intern at White Haven for a year.

Tri-State Conference of Medical Officers.—The sixth tri-state conference of officers of the medical societies of the states of New York, New Jersey and Pennsylvania was held at Scranton, June 18. These meetings are designed to afford an opportunity to discuss problems of common interest to these states. The subjects discussed were (1) "Educating the Public in Medical Matters" and (2) "The State-Wide Antidiphtheria Campaign": Dr. Frank C. Hammond, Philadelphia, presented the former and Dr. Joseph S. Lawrence, the latter. Many other officers of the societies took part in the discussion; the Medical Society of the State of Pennsylvania tendered the guests a luncheon.

Northwestern Pennsylvania Physicians' Outing.—About 125 physicians from six counties in northwestern Pennsylvania, accompanied by their families, met in Erie at a dinner, July 8, which is the annual occasion in that community when sociability is one of the most important parts of the program. The wives were entertained by a committee of ladies from the Erie County Medical Society. Dr. Allen A. Jones, University of Buffalo School of Medicine, gave a clinical review of several cases, and Dr. Arthur C. Morgan, Philadelphia, president-elect of the state medical society, discussed the previous address and spoke further on the subject of medical legislation. The officers of this society of northwestern Pennsylvania physicians for the ensuing year are Oliver H. Jackson, Meadville, president: Fred E. Ross, Erie, vice president, and Michael V. Ball, Warren, secretary.

Philadelphia

Society News.—The Philadelphia County Medical Society unveiled two tablets, June 8, each containing the names of 100 life members of the society. The address on this occasion was given by Dr. James M. Anders.——The Northern Medical Association of Philadelphia celebrated its eighty-first anniversary, May 16, on which occasion many prominent physicians of the city were guests of honor.

Professors of Obstetrics and Gynecology Appointed.—The trustees of the University of Pennsylvania have elected Dr. Charles C. Norris as professor of obstetrics and gynecology, and as director of the combined department. Dr. Norris graduated from the University of Pennsylvania School of Medicine in 1898, and for many years has been a teacher at the school. The trustees also elected Dr. Floyd E. Keene as William Goodell professor of gynecology, and Dr. Edmund B. Piper was appointed professor of obstetrics.

Hospital News.—Dr. Samuel J. Gittelson has been elected president of the medical board of Mount Sinai Hospital, and Dr. Henry B. Shmookler appointed medical director.——The American Stomach Hospital, 1809 Wallace, said to be the first in the country established exclusively for the study of diseases of the digestive tract, launched a drive, May 19, for $250,000 for new buildings and equipment.——Friends of the late Jules E. Mastbaum have raised $20,000 to endow a ward in Rush Hospital to be known as the "Jules E. Mastbaum Ward for Women."

Physicians' Wills.—The late Dr. John G. Clark, gynecologist at the University of Pennsylvania School of Medicine, provided in his will for a bequest of $50,000 to the gynecologic department of the university, and provided for the endowment of the department of gynecology at the university hospital. Dr. Clark further provided $5,000 for the medical school of the university to be known as the "Undergraduate Medical School Fund," $100 of the income to be devoted as an honorarium for an annual lecturer to address the undergraduate society and to be known as the "John G. Clark Lectureship." The late Dr. Edward E. Montgomery, professor of gynecology, Jefferson Medical College, provided in his will, among other things, that on the death of his wife, $5,000 should be paid to the aid association of the Philadelphia County Medical Society.

TEXAS

Personal.—Dr. Albert O. Singleton, professor of surgery, University of Texas School of Medicine, Galveston, has been elected by the board of regents to the chair of surgery which was formerly occupied by the late Dr. James E. Thompson.

Society News.—The North Texas Medical Association held its semiannual meeting at Paris, June 14-15, and will hold its next meeting in Fort Worth, December 6-7. Every one of the thirty-one physicians scheduled to present papers at the Paris meeting responded.——At the seventh annual meeting of the Texas Pediatric Society, El Paso, recently, Dr. Lucius D. Hill, Jr., San Antonio, was elected president, and Dr. Edwin G. Schwarz, Fort Worth, secretary-treasurer.——Dr. Ralph H. Homan, El Paso, won the state medical association's golf tournament during the annual meeting at El Paso. Out of this tournament the Texas State Medical Golfers' Association was formed, and Dr. Bramwell F. Stevens was elected president.

Excerpts from Trustees' Report.—The State Medical Association of Texas will soon move its headquarters to new offices in the Medical Arts Building in Fort Worth, where it has a ten year lease made through the cooperation of the Tarrant County Medical Society. New steel furniture has been purchased for the offices. Under the new arrangements the library will be made available to physicians throughout the state, an attainment which the board of trustees of the state association has striven for for several years. In its report to the house of delegates at the recent meeting in El Paso, it appears that the board spent $20,128.96 on the educational campaign during 1925-1926, and that $10,000 was set aside in the last budget for continuing this campaign. The board feels that the association should spend a considerable sum on securing the enforcement of the medical practice act. There is needed in Texas, it is said, a system of registration of practitioners of medicine; the board of medical examiners is without a paid executive and the only trace of practicing physicians is through the 250 counties of the state, with so many possibilities for evasion of the law as relates to registration that the effort to convict persons of practicing without sanction of the law is most difficult. It appears that there is little chance of the legislature appropriating funds for a paid secretary of the board of medical examiners and for an enforcement official in the field, and the trustees suggest that a small fee be charged physicians for registration, the money to be used to finance the board of medical examiners in its enforcement work. This would not involve any additional expense to physicians, provided the state medical association could be relieved of the $8,000 or $10,000 a year it is now spending for law enforcement and publicity.

VIRGINIA

Additional Gift to Medical College.—The president of the University of Virginia announced, June 13, that the General Education Board had given an additional gift of $156,000 to the medical school for the further development of surgery, internal medicine and public health and hygiene, to be available over a period of six years beginning next September. This sum is not included in the $800,000 gift by the General Education Board previously announced for the construction of new medical buildings. No new appointments to the faculty were announced at this time, but it is expected that teachers will be named this summer to succeed Dr. Stephen H. Watts, professor of surgery and gynecology, and Dr. Isaac A. Bigger, Jr., assistant professor of surgery, who have resigned.

Infant Mortality in White and Colored Races.—Commenting on the infant mortality figures for 1926, recently released by the U. S. Bureau of the Census, the Virginia State Board of Health says that when the rates are divided into white and colored for Richmond, the cause of the high rate is evident. The white infant mortality rate in Richmond, it appears, was only 76 per thousand births, while the colored rate was 164. Norfolk had a white infant mortality rate of 50.8 and a colored rate of 151.5, thus giving that city a standing of 90. The white rate in Petersburg was 102.3 and the colored rate, 182.5. The white infant mortality rate of Portsmouth was 60.4, and the colored rate 160, making the rate for the city 108.6. The city of Staunton, the most distinctly white city of the state, appears to be an exception in that the white infant death rate was reported as 136, and the colored rate 250. The comment is made that in this case the deaths are probably all reported while the births are not, and that the people of Staunton should see that the report of births is also complete so that it may not appear that "one of the choicest of our Virginia cities" is not such a questionable place in which to rear a family. Charlottesville had a white infant death rate of 51.9, and a colored rate of 76.9 lower than the state as a whole. The white state rate is 71.8, and the colored 110. Infant deaths may be reduced by prenatal care, and the state board of health furnishes a correspondence course which all prospective mothers may take.

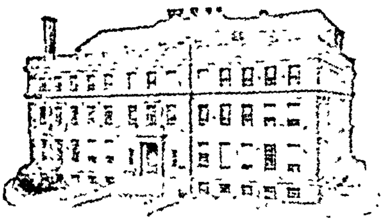
WEST VIRGINIA

Society News.—Dr. Dean Lewis, Baltimore, addressed the Ohio County Medical Society, Wheeling, recently, on "Diagnois of Bone Lesions," illustrated with lantern slides.——Dr. John B. Deaver, Philadelphia, addressed the Ohio County Medical Society, Wheeling, May 27, at the annual banquet; Dr. John W. Gilmore was elected president of the society for the ensuing year, and Dr. John G. Thoner was elected secretary for the third consecutive time.——Dr. Chester R. Ogden, Clarksburg, president of the state medical society, addressed the Barbour-Randolph-Tucker County Medical Society, Philippi, May 26; Dr. Ernest R. McIntosh read a paper on "Mental Healing"; the advisability of changing the name of the society to the "Tygarts Valley Medical Society" was considered but no definite action taken.——The Kanawha County Medical Society held a symposium on cancer, May 3; the speakers were Drs. John E. Cannaday, Robert K. Buford, Rome H. Walker and William A. Thornhill; Dr. Ray M. Bobbit, Huntington, addressed the society, May 31, on "Urinary Calculi," and Dr. Earl Bennette Henson, Charleston, on "Bone Sarcoma."——Dr. and Mrs. Garnett P. Morison, Shepherdstown, entertained the Eastern Panhandle Medical Society, June 15; among others, Dr. Emmert C. Stuart, Winchester, Va., read a paper on "The Prostate from the General Practitioner's Viewpoint."

WYOMING

First State Tuberculosis Sanatorium Dedicated.—The pioneer tuberculosis sanatorium of Wyoming was opened to public service on National Hospital Day, May 12, with appropriate ceremonies conducted by state officials. The sanatorium is at Basin in the Big Horn Mountain country, and as yet comprises only one building of thirty beds which, it is expected, will be the nucleus of larger development. Dr. Stephen O. Watkins, Basin, is the superintendent.

CANADA



School of Hygiene Opened.—The new building for the School of Hygiene of the University of Toronto was opened, June 9. The *Canadian Medical Association Journal* states that the building is a gift of the International Health Board of the Rockefeller Foundation, New York, and was built under the direction of the department of health of Ontario and the University of Toronto. It is one of three which have been established in North America by the Rockefeller Foundation, the others being at Harvard University and Johns Hopkins University. The building will accommodate the department of hygiene and preventive medicine, the department of public health nursing of the university and the Connaught Laboratories. Dr. John G. Fitzgerald, professor of hygiene, and director of the Connaught Laboratories, will be director of the new school of hygiene. At the opening ceremonies, Sir George Newman, chief medical officer, department of health for England and Wales, gave an address on "Medicine as a Science to be Learned in Laboratory and Field."

GENERAL

Fellowships Provided by Rockefeller Foundation.—During 1926, the Rockefeller Foundation provided either directly or through other agencies fellowships for 889 persons from forty-eight countries; of these, 386 fellows crossed national boundaries to pursue their studies. During 1926, the foundation contributed to the budget of the National Committee for Mental Hygiene, including funds for fellowships for the training of personnel, and made gifts also to the Canadian National Committee for Mental Hygiene which, among others, is granting fellowships to advanced students.

Hospitals Approved and Removed from List for Training Interns.—Since the list of hospitals approved for internships was published in The Journal, March 12, 1927, the Council on Medical Education and Hospitals has approved the following additional hospitals for the training of interns:

Roseland Community Hospital, Chicago.
U. S. Marine Hospital number 1, Baltimore. Affiliated with University Hospital for training in obstetrics and pediatrics.
Eitel Hospital, Minneapolis.
U. S. Marine Hospital number 21, Staten Island, N. Y. Affiliated with the Staten Island Hospital for training in obstetrics, gynecology and pediatrics.
Flower Hospital, Toledo, Ohio.
Montgomery Hospital, Norristown, Pa.
St. Michael's Hospital, Toronto, Ontario.

The following hospitals have been removed from the list:

Columbus Hospital, Chicago, for failure to meet certain requirements regarding the training of interns.
Easton Hospital, Easton, Pa., for lack of balanced experience and training for interns, its work being mainly surgical.

The statement concerning the hospitals removed from the list does not imply a lack of competence in the care of their patients, and the lack of approval should not apply to interns secured prior to the publication of this notice.

Report of Board on Typhoid in Montreal.—The board of officers of the U. S. Public Health Service appointed to investigate, with the permission of the Canadian health officials, the Montreal typhoid epidemic has made a report to Surg. Gen. Hugh S. Cumming. The survey, which began June 18, and terminated June 29, included an examination of the typhoid records of the city and other parts of the province of Quebec; survey of the city water and sewage sources; an inspection of the milk plants and dairy farms in the surrounding country; a collection by personal interview of detailed histories of 203 cases, and a consideration of the adequacy of the local health force to cope with the situation. According to official records, there were reported between March 1 and June 28, 1927, 4,755 cases of typhoid in the city of Montreal with 453 deaths, as against thirty-seven cases and eleven deaths from March 1 to June 30, 1926. No evidence was obtained by the board to suggest that the water supply or sewerage system operated in the spread of the epidemic. The official records show that soon after the outbreak a large proportion of the patients gave a history of drinking milk from the plant of the Montreal Dairy Company, Ltd.; there was no evidence found of any significant disproportion of cases among habitual users of milk from the other dairy plants. About 32 per cent of the cases were reported among children under 10 years of age. It was concluded that the vast bulk of the infection causing the epidemic of typhoid was disseminated in the milk distributed by the Montreal Dairy Company, although exactly how the infection was introduced into this local supply has not been determined. The report of the board indicates that the cause of the epidemic began operating about February 15, reached its maximum about March 5, continued high until March 18 and then declined rapidly; in fact, it is probable that there was a complete cessation of the main current of infection from March 27 to April 20, when there was another sharp rise in the rate of causation, which began a rapid decline about May 6. The cases reported with onsets subsequent to May 25 have been in decreasing proportion among persons exposed to the milk of the Montreal Dairy Company and in increasing proportion among persons exposed to previous cases.

In the farming communities from which milk was obtained by the Montreal Dairy Company, surface streams were commonly used as sources of water for the milk houses and for the disposal of sewage from homes upstream. In conveying the milk from the farms to the city plant, there was a possibility of introducing typhoid infection at the receiving stations, at one of which the water used mainly for washing the cooling vats and other equipment was pumped from a river. It appears from the charts at the city plant that such milk as was run through the pasteurizer was, with occasional minor exceptions, heated sufficiently to kill all typhoid bacilli. The question is, the board states, where and how the infection could have been introduced in sufficient volume to account for the epidemic. The general epidemiologic evidence supports the view that the main current of infection was probably in the raw milk as it entered the plant and that through advertence or inadvertence on the part of workers in the plant, a considerable proportion of the raw milk was distributed from the plant without sufficient pasteurization, or even a run through the pasteurizer during the periods from February 15 to March 27, and from April 20 to May 15. It is true that in a foreman of the plant of the Montreal Dairy Company, a positive Widal blood reaction was obtained, April 6; the urine was found repeatedly negative and the feces were positive in four out of nine examinations. He had worked for about seven years at the creamery of the company before going to work at the milk plant, February 5, which date synchronizes with the beginning of the causation of the epidemic. It was difficult for the board to conceive why, if he started the current of infection, he ceased to infect the milk during the period from about March 6 to the date on which he was removed from the plant, April 16, and it appears unreasonable to suspect that he was a causative factor in the recrudescence of the epidemic.

The board believes that the city health officer recognized his responsibility and did his best to render efficient service under most difficult circumstances. That he should be given adequate efficient personnel at once to cope with the present situation is considered of critical importance to the city. The number of new cases of typhoid reported for the ten days ending June 28 averaged more than ten a day. The report states that Montreal is not yet a comparatively safe city for visitors who are likely to be susceptible to typhoid infection. The board acknowledges the many courtesies and the assistance received from the health agencies of the dominion, the province and the city, as well as from other agencies and many individual citizens.

FOREIGN

Postgraduate Course in Balneology.—The ninth Karlsbad international postgraduate course in balneology and balneotherapy will be held, September 18-24. The course is open to all medical practitioners, for whom full opportunities for studying the local therapeutic institutions will be provided. In connection with the course a Czechoslovakian visa will be supplied without charge and a 33 per cent reduction allowed on the state railways. Further information may be obtained from the secretary, Dr. Edgar Ganz, Karlsbad.

American Fellowships for Honor Graduates.—Twenty-three honor graduates of British universities were awarded fellowships by the Commonwealth Fund, New York, it was announced May 20, and they will come to the United States next fall for two years' study at various universities. The fellowships amount to $125,000, and this is the third annual group of such awards, twenty being provided annually under the original plan. This year, three new fellowships for honor graduates of British colonial universities were added. The awards were made by a committee of educators, and 121 applications were received. The study is not to be limited to any particular field; fellows are required to travel widely in the United States, attending meetings of learned societies, and thus come in contact with eminent men in their field. Among others, James M. Alston, from the University of Edinburgh, will come to Harvard University, Boston, and Thomas F. Hewer, from the University of Bristol, to Johns Hopkins University to study bacteriology.

Honorary Degrees and Society News.—The University of Edinburgh will confer the honorary degree of LL.D. on the occasion of the annual meeting of the British Medical Association in July on Dr. William S. Thayer, Baltimore, President-Elect of the American Medical Association; Dr. Harvey Cushing, Moseley professor of surgery, Medical School of Harvard University, Boston, and Dr. Charles L. Dana, professor of clinical medicine, Cornell University Medical College. Dr. Cushing delivered the annual oration before the Medical Society of London, June 13, on the surgical aspects of acromegaly.——The *Kenya Medical Journal* has been formally recognized by the Ranganyika Branch of the British Medical Association, and has changed its name to the *Kenya and East African Medical Journal*.——The subject for the Jacksonian prize of the Royal College of Surgeons of England for 1927 is "The Pathology, Diagnosis and Treatment of Bronchiectasis and Abscess of the Lung," and the competing essays must reach the secretary not later than December 31. The subject for 1928 is "The Surgical Treatment of Pulmonary Tuberculosis."——Lord Riddell was host to the Medical Golf Society of London during the annual meeting, June 16, at Walton Heath; there were more than 100 entries and about eight prizes were awarded.

Disciplinary Action by British Council.—At the May 24 meeting of the General Medical Council of the British Medical Association in London, a number of disciplinary cases were considered. No name was erased from the register for misconduct, the *British Medical Journal* notes, but in six cases judgment was postponed until a later session of the council. These cases included one concerned with advertising, one with lax certification, three with convictions for drunkenness, and three in which practitioners in Scotland had been keeping a "medical hall" where scheduled poisons had been sold to the public by an assistant not legally qualified, who, it was alleged, had been acting under cover of the physician. The case of advertising concerned a member in India registered in the army medical service. He had practiced for a long time in India and, it appears, had an honorable career. Newspaper notices promoting his qualifications were inserted more or less by acquaintances in a friendly fashion following his return to India from England. He had attempted to determine through the local medical council in India whether ethical medical regulations had been contravened. The General Medical Council took a serious view of the offense, as was proved at the hearing, and postponed judgment until May, 1928.

Deaths in Other Countries

A. H. Freeland Barbour, formerly president of the Royal College of Physicians of Edinburgh, author of books on gynecologic subjects, June 11.——**Frederick Lange**, Berlin, Germany, formerly a practitioner in New York, and founder of the Lexington Hospital, recently, aged 77.

Foreign Letters

LONDON

(From Our Regular Correspondent)

June 25, 1927

The Royal Society Exhibition

At a conversazione given by the Royal Society, many exhibits of medical interest were shown Mr A A King showed the application of ultraviolet radiation from a mercury vapor lamp to the detection and estimation of minute quantities of arsenic When a mercury arsenic stain on a piece of filter paper sensitized with mercuric chloride is examined by means of ultraviolet rays the unchanged mercuric chloride fluoresces blue, while the mercury arsenic stains stand out as a black disk Arsenic stains, which are quite invisible in ordinary light, may be revealed in this way and it is said to be possible to detect and estimate quantitatively amounts of arsenic as small as 0 00001 mg Impurity in distilled water is also revealed by fluorescence in ultraviolet rays, and it has not yet been found possible, even with the most refined methods of distillation to prepare water that does not show some signs of fluorescence An exhibit from the National Physical Laboratory also illustrated the difficulty of preparing substances in a state of absolute purity It included specimens of iron, manganese and chromium, the impurities in which are detectable only with the spectroscope Bolometers responding with remarkable rapidity to radiant heat were shown by Mr H Dewhurst, they consist of a narrow strip of bismuth, believed to be only 0 0000007 cm thick, deposited on thin celluloid films by electrical evaporation

The Influenza Epidemic

The part played by influenza as an indirect cause of mortality may be seen from the fact that during the first quarter of the present year, when this malady was epidemic, the number of deaths in England and Wales exceeded the number of births by 1,644 In the first quarter of 1924, 1925 and 1926, when influenza was not epidemic, the increase of births over deaths numbered, respectively, 25,115, 37,224 and 43 477 The birth rate has now fallen so low that any serious outbreak of influenza is likely to reduce the population, not only relatively but absolutely The epidemic of the present year began apparently in London, where the highest point was reached in the last week in January The south of England followed quickly The highest point of the epidemic was not reached in the midland till the third week of February, the north of England, which was severely attacked, had its highest point at the end of February The influenza epidemic killed, in its short duration, 17,931 persons in England and Wales, the largest number of deaths from influenza in any first quarter since 1919, when the terrible pandemic occurred The birth rate in the first quarter was 17 3 per thousand, the lowest ever recorded except that of 1919 The death rate was 17 5 per thousand

Sleep and the Aged

The view that questions of diet and sleep are largely a personal matter, and that some people are able to attain a lusty old age while defying many of the accepted laws of health, was expounded with many examples within his own experience, by Sir Thomas Oliver, professor of medicine, University of Durham, in his presidential address to the Institute of Hygiene on the "Hygiene of the Later Period of Life" To loss of sleep were attributed some of the alterations which tend to anticipate old age But the personal element came in, and once when visiting a well known peer, who was then far advanced in the nineties and who died two years short of his century, Sir Thomas was asked by him, as he was a victim of insomnia, how many hours' sleep a man should have He replied six, but qualified that statement by the remark that many men went through life, discharging its duties satisfactorily, with only four. The peer replied, "You are quite right, for I have seldom had more than four hours' sleep in the twenty-four during the past fifty years" A few years ago Sir Thomas visited Edison in his works in New Jersey and learned from him that during the previous week he had sleep twenty-two and a half hours, less than the daily minimum of four hours to which he had referred, yet Mr Edison's powers were as good as ever He was actively engaged in research, and was conducting the affairs of a large laboratory Two and a half years ago he again visited Mr Edison, who resumed the conversation interrupted a few years previously, thus indicating that even prolonged loss of sleep had neither weakened his memory nor diminished his mental activity

Kala-Azar

The annual report of the School of Tropical Medicine devotes attention to the researches regarding the spread of kala-azar, "the one remaining unsolved problem of transmission of a great tropical disease" Kala-azar is a remittent fever of the malarial type, characterized by anemia and enlargement of the spleen and liver It is certain that the silver-footed sandfly can carry this disease, but the special conditions under which it is capable of infecting man have not yet been discovered The report maintains that the evidence as to the carrier is strong enough to encourage the hope that the elimination of the sandfly means the elimination of kala-azar

The Drugging of Panel Patients

The wasteful consumption of drugs by panel patients, owing to the complacency of physicians, has been pointed out heretofore A number in Scotland are certainly getting their "money's worth" One man to date has been prescribed 8 830 pills, and there is no indication of his giving up the treatment Another has received about 2½ hundredweight of ointment, while a third has been medically advised to drink 55 gallons of distilled water These facts were revealed in the records of the Scottish Central Checking Bureau for the National Health Insurance services

Roentgen-Ray Victim: Carnegie Hero Fund Grant

Dr G C W Williams, who did valuable roentgen-ray work from 1895 until last year, and served in the army through the war, has been made an allowance of $600 a year by the trustees of the Carnegie Hero Fund He contracted dermatitis as a result of his work, and after eight operations, which included amputation of his right hand and loss of two fingers of his left, he was obliged to give up all hope of a cure, and one by one his professional engagements had to be relinquished

Safety First in Factories

The home secretary, who at the recent annual meeting of the Safety First Association foreshadowed the possibility of the compulsory provision of safety officers in the larger factories, has now issued to the employers' associations a letter stating that he had provisionally approved the issue of an order requiring the institution of special safety arrangements in the chief accident-producing industries Progress in the development of safety first arrangements in factories he finds to be disappointingly slow The total number of accidents reported shows no sign of substantial reduction, and while a certain proportion were preventible by fencing and similar mechanical precautions which could be made the subject of specific regulation, the majority—perhaps in some cases as much as 60 per cent—were due to other causes The chief, if not the only, hope at present of effecting any substantial reduction in the total number of accidents seemed therefore to lie in a much closer and more comprehensive measure of supervision being exercised at the individual factories, which could be secured only through establishing at the works special safety organizations which would insure that the circumstances and causes of all the accidents occurring were closely investigated and the best methods of carrying on work with safety carefully studied; that the workers were instructed in the risks and imbued with safety first principles, and generally that all practicable means were taken for the promotion of safety methods. Before proceeding, however, to make the order, the home secretary desired to give employers' associations the opportunity to submit observations on the proposals, with a view to ascertaining whether the employers in any of the industries affected would not voluntarily take the necessary steps at their works. If he were assured that the employers in any of the industries concerned were ready to adopt effective safety schemes on the lines indicated in the order (or on such other lines as may be approved) and that effective steps would be taken without delay to institute such arrangements, he would be quite willing, so far as that industry was concerned, to postpone the issue of the order so as to give the employers the opportunity of dealing with the matter on a voluntary basis. It is proposed to require employment of a competent safety supervisor. The order, however, is elastic, and every occupier would have the opportunity of substituting, with the chief inspector's approval, a special safety scheme adapted to the particular circumstances of his works. He would also be able to claim exemption altogether from the order if he could satisfy the chief inspector that other not less effective measures for the prevention of accidents had been adopted. It is proposed that the order shall apply to (1) blast furnaces for the smelting of iron ore; (2) iron and steel rolling mills, including tube works; (3) engineering works in which more than 500 persons are employed, as follows: forges, engine building, making of transmission machinery, constructional engineering, hydraulic engineering, electrical engineering (making of dynamos and motors, and cable making), making of agricultural and industrial machinery, making of railway, street car and motor vehicle plant, ordnance works; (4) iron foundries in which more than fifty persons are employed; (5) shipbuilding works.

Registration of Nursing Homes

In the house of commons the second reading of the nursing homes (registration) bill was carried. Its principle has already been approved by a select committee of the house, which found that the premises of many nursing homes were structurally defective and unsuitable for the purpose to which they were devoted; the committee recognized the urgent need for registration and supervision, particularly in regard to homes which catered to poor people and senile chronic cases; and it considered that, in many nursing homes, the accommodation for the nursing staff was seriously defective. The committee recommended that the administration of registration should be carried out by the local authorities under the supervision of the ministry of health. The bill gives effect to these recommendations. It proposes that the local authority should have power to refuse registration on the ground that the applicant is not a fit person or that the premises were unsuitable. The person in charge and a proportion of the staff will have to be qualified nurses, but in the case of homes which existed at the time the bill took effect, it would not be a bar to registration if the person in charge was unqualified so long as the person who superintended the actual nursing of the patients was a qualified nurse.

PARIS

(From Our Regular Correspondent)

June 8, 1927.

The Water Supply of Paris

The problem of securing an adequate supply of drinking water for Paris is difficult, particularly for the suburbs, in which the population is increasing rapidly. Furthermore, the suburbs waste water in caring for their lawns and gardens. The projects being considered at present concern the harnessing of distant springs (for example, those of the Loir) and the use of water from the Seine, sterilized in special reservoirs, either by the admixture of sodium hypochlorite or by ozonization. The first plan will be rejected no doubt as being too expensive and because the inhabitants of the region of the Loir refuse to be deprived of their water. Also in case of war, destruction of aqueducts by the enemy or even poisoning of the water is possible. The second project is more economical. Many Parisians are, however, opposed to the use of water from the Seine on the ground that it has not an agreeable taste and would not be cool in summer. A third plan calls for a reservoir with an area of 2,844 hectares to be constructed in the department of the Aube. It would flood a whole valley. The method has been employed with success in the Pyrenees, but those mountain valleys were sparsely populated and the land had no practical value; furthermore, the quality of the water was of little importance. The reservoir in the Aube would destroy many acres of fertile fields, would constantly threaten with inundation the city of Troyes in case of a break in the retaining walls, and would supply a water the quality of which would not be superior to that of the Seine.

The Tragic Death of Prof. Robert Picqué

Dr. Robert Picqué, formerly a member of the army medical corps and likewise formerly agrégé professor in the Ecole supérieure du service de santé militaire, recently appointed professor of clinical surgery at the Faculté de médecine de Bordeaux, has just been killed. For several years, Picqué had devoted himself to furthering the transportation by airplane of injured persons. During the World War, he had promoted the establishment of surgical stations in dugouts close to the front-line trenches and under the fire of the enemy. Later, he organized medical service aviation during the campaigns in Morocco and Syria. The accident which caused his death occurred when he was informed of the serious condition of the wife of an officer in the aviation camp at Cazaux (Gironde). He went to her assistance in an airplane, accompanied by another plane for the transportation of the patient. On the return in squadron formation to Bordeaux, Professor Picqué's plane caught fire. Picqué, embarrassed by the smoke, left his seat and tried to make his way to the front of the cockpit where sat the pilot, who was making as rapid a descent as possible. But he must have made a false step, for he lost his balance and fell out of the plane, while the pilot made a safe landing and succeeded in escaping the peril of the flames. Professor Picqué was killed instantly. He was only 50 years of age.

Sunday Closing of Pharmacies

The unpopular ordinance requiring the closing of most pharmacies in Paris on Sundays gives rise to many comic and tragic incidents. Recently, a policeman who had, following instructions, compelled a pharmacy to close on a Sunday, came back, a few hours later, to seek the pharmacist's aid, as he had been injured in an accident and could not find a cab to take him to the hospital. The pharmacist was kind enough to comply with his request. At another pharmacy, which was closed in accordance with the ordinance, policemen endeavored to secure aid for a woman who had been injured on the streets, but the pharmacist refused to open his shop. However, in spite of the complaints of the public and the noisy demands of a few pharmacists, the majority of the pharmacists favor the continuance of the ordinance, whether from personal choice or (which is more likely) as the result of the pressure brought to bear by the union of pharmacy employees, who threaten to strike if the ordinance is repealed.

Opening of the First Hospital for the Insane in Algeria

A hospital for the insane has recently been officially dedicated at Blida, Algeria. It is the first hospital of the kind to be established in Algeria. The Mohammedans regard insane persons as inspired by Allah and treat them with veneration, giving them assistance whenever they encounter them. Such kind treatment and the absence of insanity resulting from alcoholism will explain why cases in which internment is necessary have been rare. But alcoholism is beginning to develop among workmen in the seaports and employees in factories, and hospitals for the insane are now needed. It is planned to erect further hospitals for the insane as soon as possible.

Social Insurance

The senate began this week the debate on the bill pertaining to social insurance. The bill was adopted in 1924 by the chamber of deputies without prolonged discussion. Since that time, the medical profession has expressed anxiety concerning the consequences that may result from the adoption of the bill. The government has postponed the consideration of the bill by the senate in view of these criticisms and because of the impossibility of making provisions for the new items with which the budget would be loaded. Also, the cost of living would increase because merchants and industrialists would add to the selling prices of their products a sufficient amount to cover the increased charges imposed on them by the new law. The debates in the senate are being followed with the greatest interest by all physicians.

The Use by a Surgeon of His Own Blood in Performing a Transfusion

Dr. Hertz, chief surgeon at the Rothschild Hospital, found one night that a preoperative transfusion of blood was indispensable in a case of ruptured extra-uterine pregnancy. He found that no one present had blood that was compatible with the blood of the patient. Only the blood of the surgeon was acceptable. Dr. Hertz supplied the patient with his own blood for the transfusion, after which he operated on the patient and succeeded in saving her.

The Nineteenth French Congress of Medicine

The nineteenth French Congress of Medicine, which will be held in Paris, October 11-14, under the chairmanship of Professor Teisier, has announced its program, which will consist of three topics as follows: (1) semeiology of medical septicemias, with papers by P. Gastinel and J. Reilly (of Paris) on general semeiology of the septicemic condition, M. de Vezeaux de Lavergne of Nancy on clinical forms of specific acute and chronic septicemia from a known or unknown virus, and by F. Arloing, P. Dufourt of Lyons and L. Langeron of Lille on clinical forms of nonspecific chronic or acute septicemia; (2) the pathologic physiology of edemas, with papers by E. Aubel and P. Mauriac of Bordeaux on the rôle of certain ions and on the variations in their distribution in the pathogenesis of edemas, P. Govaerts of Brussels on the rôle of the physicochemical properties of proteins in the pathogenesis of edemas, with researches on the variations of the osmotic and capillary pressure, and Pasteur-Vallery-Radot and P. Nicaud of Paris on edemas in chronic interstitial nephritis, and (3) the medical indications and the comparative therapeutic value of splenectomy, with papers by N. Fiessinger and P. L. Brodin of Paris on splenectomy in hemolytic processes, A. Nanta of Algiers and J. Tapie of Toulouse on splenectomy in anemic processes, A. Nanta on anemia of parasitic or infectious origin, and J. Tapie on pernicious and leukemic anemia. In order to give to the main topics as much time as possible, the program committee has decided not to accept any communication that does not bear directly on the main topics. In connection with the holding of the congress, the centenary of Villemin and his discovery of the value of inoculation in tuberculosis will be celebrated.

ITALY

(From Our Regular Correspondent)

April 15, 1927.

Experiments with Bread Containing Soy Bean Flour

At the order of the minister of war, a commission composed of physicians and chemists attached to the army service and presided over by Professor Memmo, member of the army medical corps, with the rank of general, has completed alimentation tests with bread containing 10 per cent soy bean flour. The experimental subjects were army officials (physicians and pharmacists) and soldiers of the regular army, who volunteered their services. The specimens of flour used for the test were furnished gratuitously by two Italian wholesale houses, and had been milled by different processes. The tests were conducted over a period of several weeks, and the commission recently presented to the minister of war its conclusions, which were most favorable to the adoption by the army of bread containing a percentage of soy bean flour.

Provisions for the Benefit of Pregnant Prisoners

In a recent circular addressed to the procurators of the appellate courts, the minister of justice, Professor Rocco, calls attention to the fact that often pregnant women are interned in penal institutions and give birth to children under very unfavorable surroundings. With a view to protecting the rights of motherhood and childhood, the minister decrees that, in case a pregnant woman, or a woman who has given birth to a child within three months, receives a jail or a prison sentence, execution of the sentence shall be suspended. Similar provisions are contained in the Italian Codex under the head of penal procedure, but, up to the present time, have not been applied to as wide an extent as the minister desires.

The Marchiafava Foundation

The prize of the Marchiafava Foundation for the best work on pathologic anatomy and experimental pathology (8,000 liras, or $368) has been awarded to Professor Soli, occupant of the chair of pathologic anatomy in the University of Palermo, for his researches on experimental arteriosclerosis from *Spiroptera sanguinolenta*, and to Professor Brancati, of the Clinica Chirurgica in Rome, for his investigations on internal experimental tar cancer.

Report on Sanitary Conditions in Italy

The public health service, which is under the ministry of the interior, has recently published a report on the sanitary condition of the country from July 1, 1925, to June 30, 1926, from which it appears that public health conditions remained normal during the period covered by the report. The general mortality rate was 16.58 per thousand of population, as compared with 16.61 for the preceding twelve months. The birth rate was 27.46 per thousand of population, which constituted a decline over the birth rate for 1924 (30 per thousand). The percentage of children to the total population is in Italy very high—higher than in most other countries. Especially noteworthy is the decrease in the number of deaths among children under 1 year of age. Exotic diseases did not present any conspicuous manifestations. Of the exanthematous diseases, there was evidence of a still further decrease in scarlet fever, while measles showed an increase. The manifestations of smallpox were few and very light. The public health service gives careful attention to the prophylaxis of smallpox, and is organizing more and more effectively the vaccination service. With regard to tuberculosis, while the mortality figures as a whole, taking into consideration all the various forms of the disease, have gradually dropped to about the prewar status, the mortality for the pulmonary forms remains high. More intensive prophylaxis is therefore needed, either through the mediation of the provincial antituberculosis societies, or through the activities of the institutions for the assistance of weak and predisposed children. Malaria continues to decrease. In the anticancer crusade, the public health service has made its contribution through the creation of the physical laboratory and the radiologic bureau, the purpose of which is to deal with all subjects pertaining to physics and radiotherapy. It has likewise established at Rome a special hospital (S. Gallicano) to serve as a study center for the practical application of physical therapy to tumors, and has placed in the budget an annual appropriation of two million liras ($92,000) for the prosecution of studies on cancer. During the fiscal year 1925-1926, the number of free antitrachoma dispensaries was increased from 156 to 196. A special inquiry has been begun to determine the present incidence of trachoma. Pellagra has almost completely disappeared from Italy. For the completion of sanitary undertakings there were authorized in 1925-1926 accommodation loans totaling 162,000,000 liras ($7,452,000), 140,000,000 ($6,440,000) of which was used for the construction of water works, and 22,000,000 ($1,012,000) for sewerage systems, cemeteries and the like.

The "Policlinical Hour" as Established in Padua

The Poliambulanza Medico-chirurgica of Padua, at the suggestion of Prof. Gaetano Boschi, has introduced recently an innovation among the medical assistants of the ambulatorium by establishing the so-called policlinical hour, in accordance with which fourteen medical specialists connected with the institute meet every week, at a given time and place, to determine what cases, though belonging apparently to a single specialty, present in reality syndromes of a complex nature that demand the intervention of various specialists. Thus, an attending physician, confronted with a difficult case, can take his patient for a consultation at the meeting of the group of specialists.

Convention of the League for Combating Cancer

The Lega italiana per la lotta contro il cancro, of which Professor Lustig is the chairman, has called a meeting in Milan of all those who are actively interested in the crusade against malignant tumors. Not only physicians but also administrators of hospitals, directors of charitable societies, students of social questions, and the like, are invited to attend the convention. The objects of the meeting are to make known what the league has done and what it is planning to do in the way of defense against cancer, to solve certain practical problems, and to afford an opportunity for an exchange of ideas and of programs on the part of the persons attending.

Government Aid in the Crusade Against Tuberculosis and Cancer

The minister of the interior has decided to make each year special grants for the promotion of work in tuberculosis and cancer, from the standpoint of personal aid, scientific research and the application of prophylaxis. Studies may be carried on in Italy or in some institute in a foreign country, which the applicant must name when applying for the grant. Applications will be considered from physicians who are connected with related institutions or who give evidence of possessing special preparation in either one of the fields indicated. The amount of the grant and the period of study required will be fixed, from time to time, by the minister of the interior.

New Legislation in Regard to the Sale of Alcoholic Beverages

The new public safety law contains several provisions which establish, among other things, that the manufacture and deposition of insalubrious and dangerous material may take place solely in prescribed localities and in accordance with fixed regulations; in addition, that the sale of alcoholic beverages, though made in hotels, restaurants or private circles, must always be authorized by a special license to be issued by the public safety authorities, and if the percentage of alcohol in a beverage exceeds 21 per cent, a selling permit must be secured from the prefect. The ambulant sale of alcoholic beverages of whatever percentage is prohibited, and the sale of such beverages to minors under 16 years of age is forbidden. The sale of beverages with an alcohol content in excess of 21 per cent is absolutely prohibited on holidays. The manufacture, possession or sale of absinth is likewise prohibited.

NETHERLANDS

(From Our Regular Correspondent)

May 15, 1927

Medical Examination as to Aptitude for Sports

A medical bureau the object of which is to offer an opportunity for medical examination as to aptitude for participation in various sports has been established at The Hague. Professor Sleeswijck, in his dedicatory address, outlined the purposes of the bureau, which are to avoid the ill effects of sports, supervise training and control the effects of sports on the organism. The executive committee comprises a representative of the medical society for physical education, a medical practitioner of The Hague, a school physician, and a representative of the athletic societies. A similar undertaking has been announced in Amsterdam.

Dental Service in the Schools

Following the example of other cities, Rotterdam is planning to organize a dental service in the schools, which will not only comprise an inspection service but also provide gratuitous treatment for children who obtain the consent of their parents. It is estimated that the annual expense involved will amount to about thirty cents per pupil.

International Congress of the History of Medicine

The sixth International Congress of the History of Medicine will be held at the University of Leiden (Leiden) and at Amsterdam, July 18-23. In Amsterdam there will be organized for the occasion an important exposition of paintings and books pertaining to anatomy and the art of healing.

Milk Hygiene

A society has been created in Amsterdam the object of which is to improve conditions surrounding the production, shipment and sale of milk in the region about Amsterdam. With this purpose in view, it proposes to organize a milk control center. It will endeavor to regulate the question of selling price, and will seek to develop the milk-producing organizations and to insist on the value of a good water supply for milk producers. It will also establish a supervision of stables in order to discover diseased animals and will organize an instruction center for the dissemination of knowledge concerning the establishment and management of stables.

Treatment of Leukemia

A philanthropist has established a prize of $50,000 (125,000 florins) for the best work on the treatment of leukemia. A committee composed of Professors Naegeli (Zurich), Van den Berg (Utrecht), and Snapper (Amsterdam) will judge the value of works presented. Competitors must send in their works so as to reach Prof. Hymans Van den Berg, Medical Clinic, Utrecht, Netherlands, by March 1, 1928. The amount of the prize will be doubled in case a member of the family of the founder of the prize, at present stricken with myeloid leukemia, shall be cured by the therapeutic method described in the prize work.

A New Publication

The Netherlands Association for Combating Rheumatism, to the founding of which reference has been previously made, has issued the first number of the review *Rheumatiek*, which will be the organ of the new association.

Opportunities for Vacation Study of Medicine

The association of medical students and the faculty of medicine of Utrecht have taken action with a view to increasing the opportunities for practice work during the course of medical training. They have addressed a petition to the directors of the various civilian hospitals requesting that students of sufficiently advanced standing be permitted to assist in the hospital services of the various cities during the Christmas, the Easter and the summer vacations.

A Council on Medical Ethics

The lower house of parliament has begun discussion of a bill providing for the creation of a council on medical ethics to be established on a basis similar to that of the existing council on legal ethics. The scope of this medicojudicial organization is expressed in the first article of the bill, which states that any physician who becomes guilty of an act calculated to impair the general confidence inspired by the medical profession, who commits a tort bringing damage to a third party, or who gives evidence of marked incapacity, is subject to a special penalty distinct from any damages that may be recovered by process of law. The penalties thus imposable are warning, censure, fine up to $800, deprival of the right to practice medicine for the period of one year, and cancelation of the right to practice.

Furthermore, the council would have the right to deprive of the privilege of practicing medicine physicians suffering from mental or organic diseases incompatible with the practice of the art. The council would be a body that would derive its authority from a central body having the powers of an appellate court. For the application of the three last mentioned penalties (imposition of fines and denial of the right to practice medicine), the civil court of jurisdiction must approve the sentence imposed by the council. The council would be composed of physicians and a jurist. During the course of discussion in the chamber, differences of opinion were expressed as to the rights, duties and privileges that should be accorded to the jurist as a member of the council—whether he should be the chairman or the secretary—and also as to need or feasibility of legislation of this character. Following the expression of the many divergent opinions, the chamber decided to withdraw the bill from discussion and to seek the opinion of the special commission. The Nederlandsche Maatschappij tot Bevordering der Geneeskunst had sent to the chamber a petition in which it urged that the president of the council be chosen from among the physicians and should not be a jurist.

Death of Prof. J. De Bruin

Professor De Bruin, one of the foremost pediatricians in the Netherlands, has just died. His principal works were studies on infantile scurvy and on cerebrospinal meningitis. He was one of the founders of the Netherlands Pediatric Society.

The International Congress of Anthropology

Next September will be held the triennial congress of the international institute of anthropology. The Netherlands national bureau of anthropology, of which Dr. Kleiweg de Zwaan is the president, is entrusted with the organization of the congress. At the same time, the international federation of eugenic organizations will convene in Amsterdam. The papers will be divided among the following sections: (1) physical anthropology, (2) ethnography and ethnology, (3) heredity and eugenics, (4) sociology and criminology, (5) the prehistoric period, and (6) folklore.

Dr. Charles Davenport, director of the Carnegie laboratory for experimental evolution and of the Eugenics Record Office at Cold Spring Harbor, will speak on the crossing of races.

BERLIN

(From Our Regular Correspondent)

June 11, 1927.

Meeting of the German Surgical Society

(Continuation)

Clairmont of Zurich discussed the question of to what extent the standpoint of the referring physician in an operation for acute appendicitis was to be considered. In 1,293 cases there were 280 (more than 20 per cent) wrong diagnoses. The speaker emphasized that the fact did not constitute a reproach to the practicing physician. It was eminently desirable that even the suspicious cases should be referred to the clinic or to the hospital as soon as possible. It was the duty of the clinic (if possible, in agreement with the physician) to decide on the indications for an operation. Similar views were expressed by Konig of Wurzburg, who called attention to a similar situation with regard to patients with gastric ulcer, referred to the clinic, in whom the indications for the operation can usually be decided on only after a clinical observation extending over a considerable period; by Anschutz of Kiel, who stressed the great responsibility of the practitioner in referring the cases, and the equal responsibility of the clinic in refusing to operate; by Meisel of Constance, who, to avoid errors in diagnosis, and especially the confusion of disorders of the lungs and the pleura, makes a roentgenologic examination in every case as a matter of routine, and by de Quervain of Bern, who emphasized that the physician referring the case must never be disavowed. Borchard of Charlottenburg called attention briefly to the possibility of confounding appendicitis and osteomyelitis of the inner table of the pelvis.

With reference to the abdominosacral operation in high placed rectal carcinomas, with preservation of the sphincter muscle, Borchers of Tubingen demonstrated the technic worked out by Perthes (now deceased), in which the advantages of the combined procedure were emphasized. The operation begins from below with exposure of the rectum; the patient is then made to assume the dorsal position; the abdomen is opened and the tumor is delivered by means of two traction bands. Resection follows after ample mobilization of the flexure.

The third main topic dealt with the present status of surgery of the joints, the principal speaker being Payr of Leipzig. In addition to the primary consequences of a joint injury there are secondary changes such as loss of cartilage, development of connective tissue to replace lost cartilage, adhesive union of the joint cleft, deformation of the ends of the joints, obstruction caused by osteophytes, and contraction of capsular ligaments. In animal experiments better results were secured in the presence of slight contamination than when the conditions were entirely aseptic, since chemical irritation plays a part in the regenerative process. Payr discussed the various aids in diagnosing joint injuries and joint disorders particularly roentgenologic procedures. In addition to roentgenograms taken from two different directions, diagonal exposures are often necessary. He mentioned also the determination of the presence of foreign bodies in the deeper tissues, loose bodies in joints, foci, stereoptic photographs, the use of contrast mediums, auscultation and endoscopy, and emphasized the importance of blood tests, the determination of the hydrogen ion concentration, the significance of injections of tuberculin, and excision of the capsule He referred to the importance of latent infection and to the research methods for discovering it In connection with the indications for operative intervention, he emphasized the difference between a healthy joint with a local mechanical disturbance and a joint that has been seriously injured Under some circumstances diagnostic explorations cannot be avoided *The age and the social status of the patient are factors to* be considered Before the operation, the whole operative plan must be thought out—whether the joint itself or other members of the kinetic group are to be attacked, and whether the measures to be resorted to shall be extra-articular or intra-articular, surgical or nonsurgical Payr divides the cases into three fundamental types (1) restoration of form and function; (2) sacrifice of a diseased joint, and (3) contemplated destruction of an anatomically sound but useless joint. Payr discussed then the general technic of joint operations: narcosis by inhalation anesthesia or by conduction anesthesia, importance of asepsis and hemostasis, avoidance of the introduction of foreign bodies of any considerable size, the use of living tissue as far as possible for the restoration of lost tissue, the skin incisions, and methods of opening (conservative attitude toward muscles and nerves, likewise avoidance of injuries to cartilage and articular ligaments) Especially important is the after treatment early movement in the case of joint fractures, every forced movement is a grave mistake but active and passive movements, to be executed by the patient, after the wound has healed, from the tenth day on are beneficial Subsequently, Payr discussed "closed" joint injuries and their sequels, fractures of the neck of the femur, luxations (operative intervention in habitual and irreducible luxations, extra-articular and intra-articular interventions, reparation, resection, plastic restoration), laceration of articular ligaments, internal injuries and pathologic conditions of the meniscus He emphasized the importance of suturing the ligaments but recommended rather the removal than the suturing of the meniscus He devoted a few words to chondropathies, partial necroses, movable bodies in joints (removal of the underlying stratum), chronic effusions, jerking and snapping joints, and amphiarthrosis and flail joints. Open joint injuries should be treated by excision of the infected foci and primary suturing (600 primary cures in 962 cases). He then took up joint disorders of infectious and noninfectious origin (constriction hyperemia, puncture, surgical intervention, phenolized camphor, plastic treatment), osteochondrotrophopathies (malacias), deformities of the joints, ankylosis (caution in the presence of tuberculosis; often more difficult to make a joint sufficiently rigid than it is to mobilize it), tumors and congenital malformations.

Marriages

Joseph H. Greenberg, Toronto, Ont, Canada, to Miss Matilda Friedlander of Brooklyn, June 14

Lawrence A Dondanville, Moline, Ill, to Miss Eva Catherine Ender of Deerfield, June 15

Cyril Vincent Lundvick, Tacoma, Wash, to Miss Kathleen Parshall of Seattle, June 11

Chester Alphonsus Regan to Miss Helen Bell Winklesky, both of Seattle, June 15

Arthur M Kraut to Miss Ophelia Hass, both of Jersey City, N. J, June 8

Benjamin Fosse to Miss May Lear, both of Beloit, Wis, *June 21*

Deaths

Charles Franklin Hoover ⊕ Cleveland, Harvard University Medical School, Boston, 1892, past president of the Association of American Physicians, and the Cleveland Academy of Medicine, chairman of the Section on Practice of Medicine of the American Medical Association, 1907-1908 and member of the American Society for Clinical Investigation, assistant in medicine 1894-1895, instructor in physical diagnosis and director of clinics, 1895-1896, professor of physical diagnosis, 1895 1909, and since 1909 professor of medicine, Western Reserve University School of Medicine, served in France during the World War, visiting physician to the Cleveland City Hospital 1894 1907, and chief of the medical staff of the Lakeside Hospital, where he died, June 15, following a long illness, aged 61

Henry Alphonsus Callahan ⊕ Captain M C, U S Army, Washington, D C, Harvard University Medical School, Boston 1906 member of the Medical Association of the Isthmian Canal Zone, served during the World War and in 1920 was appointed a captain in the regular army medical corps, aged 47, died, March 20, at Fort Totten, N Y of *cerebrospinal meningitis*

Frank Tyler Fraser Stephenson ⊕ Detroit, Detroit College of Medicine and Surgery, 1901, member of the American College of Physicians, lecturer on organic and inorganic chemistry at his alma mater, served during the World War on the staff of the Providence Hospital where he died, May 14, following an operation for appendicitis aged 52

James Samuel Goetz ⊕ Omaha, Miami Medical College, Cincinnati, 1900 assistant professor of medicine and chairman of the department of therapeutics University of Nebraska College of Medicine, on the staffs of the Immanuel and Wise Memorial hospitals aged 48, died suddenly, June 7 of myocarditis and acute nephritis

Leonard Huntress, Lowell Mass, Medical Department of Columbia College New York 1874 member of the Massachusetts Medical Society trustee of the State Almshouse and Farm for twenty five years member of the school board and chairman of the board of health for several years, aged 78 died June 3 of heart disease

John Roseman Marshall ⊕ Sheffield, Ill Rush Medical College Chicago 1896, formerly member of the school board and board of health, on the staff of the Julia Rackley Perry Memorial Hospital, Princeton Ill aged 55, died, June 23 at the Presbyterian Hospital, Chicago, of cysto ureteritis, pyelonephritis and pyemia

Edwin F Kamerly, Jr ⊕ Philadelphia University of Pennsylvania School of Medicine, Philadelphia 1891 on the staff of the Frankford Hospital, and formerly on the staff of the Medico-Chirurgical, and Philadelphia General hospitals aged 58 died, June 21, at the Samaritan Hospital following a colostomy

Herbert George Rockwell, Amherst Mass University of Vermont College of Medicine Burlington 1896 member of the Massachusetts Medical Society on the staff of the Pratt Health Cottage of Amherst College, served during the World War, aged 55, died suddenly, June 25 of cardiac embolism

Lewis Allen Griffith, Upper Marlboro Md College of Physicians and Surgeons, Baltimore 1879 member of the Medical and Chirurgical Faculty of Maryland formerly member of the state board of medical examiners and board of health, aged 68, died, June 23, of heart disease

Robert Quarles McClure, Texarkana, Texas Medical Department of the Tulane University of Louisiana New Orleans, 1901, member of the State Medical Association of Texas, aged 50, died, March 14, at the Michael Meagher Hospital, of pneumonia, following erysipelas

William A Sherman ⊕ Newport, R I, Harvard University Medical School, Boston, 1902, member of the board of health, formerly member of the school board and city council on the staff of the Newport Hospital, aged 49, died suddenly, June 18, of heart disease

John W Scott, St Charles, Minn, University of Wooster Medical Department, Cleveland, 1880, member of the Minnesota State Medical Association, formerly president of the school board and the Citizens State Bank, aged 76, died, May 16, of pernicious anemia

Edmond De Witt Converse, Chicago, Chicago Medical College, 1874, Medical Department of Columbia College, New

York, 1875; member of the Illinois State Medical Society; aged 74; died, in June, of mitral stenosis, chronic myocarditis and chronic nephritis.

Albon Ellsworth Fichtner ⊕ Johnstown, Pa.; University of Pittsburgh School of Medicine, 1907; served in France during the World War; medical director of a maternity hospital bearing his name; aged 43; died, June 21, of an accidental overdose of chloroform, self-administered.

Ferdinand G. Kneer ⊕ New York; Medical Department of the University of the City of New York, 1887; formerly visiting surgeon to St. Catherine's Hospital, Brooklyn; aged 67; died, June 17, following an operation for acute intestinal obstruction.

John J. Wagner ⊕ Brooklyn; Jefferson Medical College of Philadelphia, 1897; formerly on the staff of the Kings County Hospital; aged 59; died, June 11, at the Methodist Episcopal Hospital, of peritonitis, following an operation for appendicitis.

Dorris May Presson Kraus ⊕ Needham, Mass.; Woman's Medical College of Pennsylvania, Philadelphia, 1911; member of the New England Society of Psychiatry and the American Psychiatric Association; aged 38; died, June 22, of carcinoma.

Albert Livingston Stage, Columbus, Ohio; Physio-Medical College of Indiana, Indianapolis, 1896; Ohio Medical University, Columbus, 1900; member of the Ohio State Medical Association; aged 56; died, May 7, of cerebral hemorrhage.

John W. Hays, Albion, Ind.; Medical College of Ohio, Cincinnati, 1872; member of the Indiana State Medical Association; Civil War veteran; past president of the Noble County Medical Society; aged 86; died, June 17, of senility.

Chisolm Tucker Rogers, Tulsa, Okla.; University of the South Medical Department, Sewanee, 1904; resident physician of the Oklahoma Indian Sanatorium, where he died, June 6, aged 51, of tuberculous peritonitis.

Aurelius Daniel Coleman, Mount Willing, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1880; member of the Medical Association of the State of Alabama; aged 78; died, recently, of arteriosclerosis.

James B. Sharp, Union City, Tenn.; Vanderbilt University School of Medicine, Nashville, 1883; member of the Tennessee State Medical Association; aged 74; died, June 20, of myocarditis and angina pectoris.

Rollo Carlton Dugan ⊕ Ottawa, Kan.; University of Minnesota Medical School, Minneapolis, 1890; on the staff of the Ottawa Community Hospital, where he died, June 10, of carcinoma of the larynx, aged 62.

Frances A. Adams, Syracuse, N. Y.; Syracuse University College of Medicine, 1885; on the staff of the Syracuse Memorial Hospital, where she died, June 8, aged 72, of toxic adenoma and myocarditis.

Burleson Staten, El Paso, Texas; University of the South Medical Department, Sewanee, 1903; member of the State Medical Association of Texas; aged 53; died, June 19, of carcinoma of the bladder.

Frederick Lyman McKee ⊕ Hartford, Conn.; Columbia University College of Physicians and Surgeons, New York, 1899; aged 58; died, May 1, at the Hartford Hospital, of chronic nephritis.

Frank M. Rogers, Vergennes, Vt.; University of Vermont College of Medicine, Burlington, 1899; past president of the Addison County Medical Society; aged 51; died, April 5, of lobar pneumonia.

Jeremiah Hawley Leaming, Vienna, Ohio; Cleveland Homeopathic Medical College, 1898; member of the Ohio State Medical Association; aged 58; died, May 26, of cerebral hemorrhage.

Park Lewis McDonald ⊕ Kansas City, Mo.; University Medical College of Kansas City, Mo., 1889; on the staffs of St. Mary's and St. Joseph's hospitals; aged 65; died, June 8, of heart disease.

David A. Patterson, Westfield, Pa.; Rush Medical College, Chicago, 1897; member of the Medical Society of the State of Pennsylvania; aged 59; died, April 6, of chronic interstitial nephritis.

Milton Seymour Feldman, Northville, Mich.; University of Michigan Medical School, Ann Arbor, 1924; aged 28; died recently, at the Spring Hills Sanatorium, of pulmonary tuberculosis.

John W. Burgess, Higginsville, Mo.; Barnes Medical College, St. Louis, 1903; member of the Missouri State Medical Association; aged 56; died suddenly, June 9, of cerebral hemorrhage.

Samuel H. Anderson, Gibsonia, Pa.; Bellevue Hospital Medical College, New York, 1885; aged 64; died, February 28, at the Allegheny General Hospital, Pittsburgh, of cerebral hemorrhage.

Eugene Henry Lynch, San Francisco; St. Louis University School of Medicine, 1919; aged 34; died, June 23, at the Park Sanatorium, of acute dilatation of the heart and chronic myocarditis.

Charles A. Dewey, Rochester, N. Y.; Harvard University Medical School, Boston, 1880; member of the Medical Society of the State of New York; aged 85; died, June 13, of bronchopneumonia.

William Russell Stevens, Abington, Mass.; Tufts College Medical School, Boston, 1906; member of the Massachusetts Medical Society; aged 47; died, June 5, in Boston, of embolism.

Mary E. Towers, Minneapolis; University of Minnesota Medical School, Minneapolis, 1898; on the staff of the Asbury Hospital; aged 70; died, in June, of chronic interstitial nephritis.

Lewis Harris Britton, Caledonia, Ohio; Starling Medical College, Columbus, 1905; member of the Ohio State Medical Association; aged 47; died, June 12, of cerebral hemorrhage.

Robert Pollard Stryker, Newcastle, Va.; Medical College of Virginia, Richmond, 1912; member of the Medical Society of Virginia; aged 38; died, June 13, of pneumonia.

Joshua Samuel Goodwin, Los Angeles; Rush Medical College, Chicago, 1922; member of the California Medical Association; aged 31; died, May 26, of heart disease.

L. G. Dexter, Harwood, Texas; Louisville (Ky.) Medical College, 1893; member of the State Medical Association of Texas; aged 59; died, June 5, of heart disease.

John H. Wolfe, Degraff, Ohio; Columbus Medical College, 1877; member of the Ohio State Medical Association; aged 73; died, June 23, of diphtheria.

Bayard Thistle Keller ⊕ Cuyahoga Falls, Ohio; University of Maryland School of Medicine, Baltimore, 1871; aged 77; died, May 6, of heart disease.

Donald Campbell Meyers, Toronto, Ont., Canada; Trinity Medical College, Toronto, 1888; M.R.C.S., England, L.R.C.P., London, 1889; died, April 20.

Horace Rindress, North Sydney, N. S., Canada; Medical Department of the University of the City of New York, 1895; died suddenly, April 13.

Nicholas N. Wiger ⊕ Seattle; University of Minnesota Medical School, Minneapolis, 1903; aged 48; died, June 6, of cerebral hemorrhage.

Winston Cass Wood, Bessemer, Ala.; Atlanta (Ga.) Medical College, 1881; aged 78; died, June 19, at Lipscomb, of chronic nephritis.

Burrell L. Craddock, Fort Worth, Texas; Memphis Hospital Medical College, 1891; aged 63; died, February 4, of heart disease.

Paul J. Kappes, Milwaukee; University of Bonn, Germany, 1888; aged 64; died, April 24, of gastro-enteritis and myocarditis.

John Hugh Bannon ⊕ Lawrence, Mass.; Baltimore Medical College, 1898; aged 49; died, May 27, of carcinoma of the throat.

John William Maguire, Huntington, W. Va.; Bellevue Hospital Medical College, New York, 1878; aged 73; died, in May.

John Wheeler ⊕ Plymouth, N. H.; Dartmouth Medical School, Hanover, 1898; aged 55; died, June 5, of nephritis.

Joseph W. Taylor, Hartford, Ky.; University of Louisville School of Medicine, 1875; aged 78; died, June 9, of pneumonia.

Stephen Smith Sanger ⊕ Yukon, Okla.; Fort Worth School of Medicine, 1900; aged 52; died, June 3, of angina pectoris.

William Edward Todd, Hagerstown, Md.; Chicago Medical College, 1890; aged 68; died, June 22, of heart disease.

Edward P. Warren, Etters, Pa.; University of Maryland School of Medicine, Baltimore, 1868; aged 79; died, May 18.

Horace E. Deemer, Jefferson, Ohio; Columbus Medical College, 1883; aged 67; died, May 29, of pneumonia.

James W. Cartwright, Murfreesboro, Tenn.; Memphis Hospital Medical College, 1896; aged 69; died, May 17.

William F. Butler, Cayuga, Ind.; Medical College of Indiana, Indianapolis, 1895; aged 70; died, June 5.

George F. Slater, Chicago; Fort Wayne (Ind.) College of Medicine, 1896; aged 52; died, June 19.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

"VISCOSE" FOR VARICOSE VEINS

The Viscose Company of Los Angeles, California, sells a small amount of a glue mixture with a few rolls of gauze bandages for $30. This combination is sold as a means of reducing varicose veins. Apparently, the Viscose Company also gives medical treatment to those who will come to its Los Angeles headquarters, for, in some of its form-letters, we read:

Leg Trouble

VARICOSE VEINS — ULCERATIONS

Viscose Method gets at the real cause of ulceration, which is usually diminished circulation from swollen inner veins or varicose veins. New external application once a week replaces elastic stocking. Reduces swollen legs. Stops aches and pains. Makes blood circulate. Avoids laying up to heal sores. Results quick and positive while you work as usual. Send now for FREE BOOK. Tells how to get well at home. A. W. Viscose Co., 803 So. Lake St., Los Angeles, Calif.

> "To reduce varicose veins permanently, you should come to Los Angeles for treatment. An injection in the vein puckers the vein and draws it up. . . . The varicose veins disappear without after-effects"

The letter then urges the sufferer, if he is not willing to come to Los Angeles, to buy the mail-order treatment that the concern sells.

The treatment consists of a pinkish gelatin-like mixture, which the company calls "Viscose," together with some rolls of gauze and of crêpe paper. The instructions are to melt the "Viscose" by placing the can in which it comes in a water bath and bringing the water to a boil. When melted, it is to be thinned down to the consistency of thin cream by the addition of hot water. The melted "Viscose" is then applied to the leg, starting with the foot and working toward the knee, application being made by means of a brush. The first application is made directly to the skin and, while the material is still "tacky," gauze is applied, working from the foot up to the knee. Then a second layer of "Viscose" is painted over the gauze bandage and over this one more layer of the gauze is laid. Then a third coat of "Viscose" is applied, and over it, the crêpe paper bandage is wound.

In order that some information might be available regarding the composition of "Viscose," the A. M. A. Chemical Laboratory was asked to analyze it. The laboratory report follows:

LABORATORY REPORT

"One original specimen of Viscose (Viscose, Inc., Los Angeles, California) was submitted to the A. M. A. Chemical Laboratory for examination. The product was of a rubber-like consistency and colored pink. Qualitative tests indicated the presence of zinc oxide, glycerin, a nitrogenous compound and water. The tests indicated the nitrogenous compound to be composed of gelatin rather than 'casein.' Starch, sulphides, sulphates and borates were not found.

"Quantitative analysis yielded the following:

"Nitrogen, calculated as gelatin " (Nitrogen x 6 25)	24.0 per cent
"Zinc oxide	16 6 per cent
"Glycerin and water (by difference)	39.4 per cent

"From the foregoing analysis, it is concluded that the product is essentially a mixture of zinc oxide and glycerin in a gelatin base. The material seems to be little better than white carpenters' glue with glycerin. The name itself is misleading, as viscose is a well recognized chemical substance known for years and used in making caps for covering bottles, for making artificial hog casings and in the manufacture of artificial silk.

"A product similar to the viscose 'glue' of the Viscose, Inc., can be prepared as follows:

"Gelatin	5 parts
"Water	5 parts
"Calamine	4 parts
"Glycerin	6 parts

"Dissolve the gelatin in hot water, add warm glycerin and calamine (which is impure zinc oxide, used because of its pink color). Mix thoroughly and pour into a mold."

THE JOY BEANS LABORATORIES FRAUD

A Piece of Aphrodisiac Quackery Debarred from the Use of the Mails

One Frank Beland of Cairo, Illinois, exploited an indecent piece of quackery under such trade names as "Joy Beans Laboratories" and "Beland Laboratories." He sold a preparation called "Joy Beans," which was advertised under the claim that the product was a sexual tonic. Beland, of course, had no medical or professional training and employed no physicians, chemists or pharmacists His nostrum, according to the government report, was put up for him by Eli Lilly and Company of Indianapolis He had two formulas for Joy Beans, Nos 1 and 2 The ingredients in No. 1 were.

Pepsin	85/100 grain
Potassium Iodide	2 1/2 grains
Carbolic Acid	1/2 grain
Zinc Phosphide	1/4 grain
Powdered Nux Vomica	1/8 grain
Strychnine	1/60 grain
Yohimbin Hydrochloride	1/12 grain
Calcium Carbonate	95/100 grain

The ingredients in Joy Beans No *2* were

Granulated Pepsin	2 grains
Muirapuama Root	4 grains
Powdered Nux Vomica	1/8 grain
Powdered Zinc Phosphide	1/3 grain
Powdered Yohimbin Hydrochloride	1/10 grain
Powdered Strychnine	1/60 grain
Gold Chloride	1/100 grain
Ferric Chloride Crystals	1/3 grain
Methyl Salicylate	Sufficient to flavor

In the stationery sent out by Beland, Joy Beans were described as "a preparation of roots, barks and herbs gathered from all parts of the world" Some of the further claims made for his nostrum were

MEN BE A REAL MAN Let Me Show You How

Are you ageing before your time? Are you always tired? Do you lack the stamina of youth? Have you tried everything and everybody? Then try The world's greatest force building, tonic tablets for men and women. JOY BEANS YOUR MONEY BACK IF NOT SATISFIED. $2.00 per box of 50 beans. 4 boxes $7.00 cash or C. O. D. plus postage. In plain wrapper. Write today. Agents Wanted.

JOY BEANS LABORATORIES (Frank Beland, Prop.),
Dept E, 915 Ohio St., CAIRO, ILL.

> "Joy Beans are a scientifically prepared tonic for assisting nature to rebuild the weak and worn glands and help to restore them to youthful activity in both sexes"
>
> "If you feel your strength failing, don't wait, delay is dangerous, begin taking Joy Beans at once."
>
> "Fills your blood with rich red corpuscles, makes 'fighting blood' the kind that tends to make the weak strong and the strong stronger Fills you with pep."
>
> "The most wonderful vitalizing, strength giving tonic science has as yet produced; a real fountain of youth"

The federal authorities, in looking into this fraud, found that Beland sold his preparation to persons regardless of the symptoms furnished. One letter written to Beland stated that the writer was 81 years old, lacked the stamina of youth, had lost all sexual power and that his prostate gland was in such condition that urine had to be withdrawn by means of a catheter. Beland was told that if Joy Beans would cure these conditions, to send a $2 package. Beland sent it.

As Joy Beans did not contain roots, barks and herbs gathered from all parts of the world, and would not "restore lost manhood," neither would it protect the sex glands from wear and tear, nor build up the glands in 81-year-old men to youthful activity, the business that Beland was engaged in was declared fraudulent and was debarred from the use of the mails.

Correspondence

XYLENE FOR REMOVAL OF WAX

To the Editor.—Recently I had to treat two patients with hands severely burned by the overturning of a pot of hot sealing wax. What promised to be a very painful and tedious task was made easy by the use of xylene.

Absorbent cotton was saturated with xylene and placed over the sealing wax. In a few minutes the wax had softened where it was thinnest and peeled off as the cotton was removed. Over the areas where there was a thicker layer of wax it was necessary to leave the saturated cotton longer and to aid in the removal of the wax by using dressing forceps. In both cases the wax came off without injuring the blistered skin.

Both patients were delighted with the results and neither complained of any irritation from the xylene, a common experience when it is used to remove adhesive plaster.

This use of xylene suggested itself because of the ease with which it softens asphaltum and like preparations in the laboratory.

C. T. Sharpe, M.D., New York.

IMPORTANCE OF VASCULAR PERMEABILITY IN THE RADIOTHERAPY OF CANCER

To the Editor:—In The Journal, Nov. 6, 1926, page 1537, Dr. A. U. Desjardins states, in his article on "Stimulation and Immunity in Radiotherapy," that "the major effect of radium or roentgen rays is a direct one," and that the "false notion that the partial regression of a tumor resulting from irradiation is due to products elaborated in some mysterious way and leading to some vague form of immunity" is based on a misinterpretation or an abuse of the word stimulation.

I must take issue with such statements for the following reasons:

An epithelioma of the scleral conjunctiva, involving the corneal margin and surrounded by hundreds of dilated capillaries, save in the corneal part of the margin which is avascular, was treated with radium for six days. Six days after the last treatment the vascular scleral margin had not advanced any more, while the avascular corneal edge had pushed forward 1 mm. and infiltrated the deep cornea. This was verified by an examination with Vogt's corneal microscope. Nine days later, only a few remnants of the tumor were left either in the scleral or in the corneal part. However, whereas no capillaries formerly existed in the corneal area, dozens of them now had developed, surrounding the remnants of the cancer cells. Three months later, the epithelioma was cured and the vascular inflammation had subsided.

This experience compels me to conclude that: 1. As the scleral margin pushed forward after the irradiation, its healing cannot be the result of any direct action of radium, as there was none at the time. 2. As the corneal area, which normally has no vessels, succeeded in producing them after the irradiation, the presence of a stimulative formation around the corneal border of the epithelioma must be accepted. 3. As the corneal margin of the epithelioma kept on growing when vessels did not exist and disappeared when capillaries developed, the presence of such vessels must be necessary. 4. Since the vascularization of the scleral margin could not stop the growth of the epithelioma before irradiation, the vascular wall must have been changed by the rays. 5. As there were no capillaries during irradiation, and, moreover, when they developed, the corneal margin of the epithelioma vanished, the change in the vascular wall must be an indirect postirradiation result.

The mechanism causing this change in the vascular wall is not known. However, clinical experience, biologic and chemical experiments(Kroetz, Siedamgrotzky, Cramer), and capillary histology and microscopy combine to show that roentgen rays and radium cause a permeabilization of the parietal wall to many substances which could not cross it before. It seems as if the different permeability shown by the different vessels, both normal and pathologic, was not as yet fully realized.

My present working hypothesis for the treatment of malignant tumors is based on the experiments of Mooser of Mexico City, Dujardin of Brussels and the investigations on metabolism in cancer by Warburg of Berlin. All the causes so far brought forward for cancer—(*a*) chronic irritation (mechanical: stenosis and pressure; physical: heat, light, roentgen rays and radium; chemical: arsenic, silver, thallium, coal tar and paraffin); (*b*) chronic infection, tuberculosis, syphilis; (*c*) dyskeratoses and scars—bring about the same result: sclerotization and decreased vascular permeability to internal secretion products, ferments and especially oxygen. The success of roentgen rays and radium is due to the permeability (erythema, edema) of vessels formerly impermeable to oxygen and probably to other protecting substances. Failures of this therapy occur when the vessels are obliterated or too injured.

Gustav Peter, M.D., Mexico City.
Radiologist, American Hospital
and British Hospital.

KOPLIK SPOTS

To the Editor:—In the summer of 1862, I was a medical student in the office of the celebrated anatomist Robert Laughlin Rea. There were several private students in the city, and during the vacation period we attended clinic on Wednesdays and Saturdays, each member of the faculty giving one a month. One day, during Dr. J. Adams Allen's clinic, a woman brought in a small child. It looked like "the last rose of summer," and had a hacking cough, suffused eyes and hot skin. Dr. Allen said, "Beasley, find out what is the matter with that child." Dr. Rea had instructed me in auscultation and percussion, especially on the normal sounds. He had often said, "Get the normal healthy sounds of the lungs and heart fixed in your memory and you'll readily know when they are wrong." We used tactile sense prior to the invention of the fever thermometer.

The chest was resonant, but when I put my ear on the chest I was astounded at the sounds. Not long before I had listened to the chest of one who was suffering from a slight cold, but this was much worse. I said, "A very bad cold." "No," said the doctor; "Avery, see if you can tell me." He did no better. Then turning to me, Dr. Allen said, "Look in the mouth and tell me what you see." I was surprised to find that the inside of the cheeks and the fauces were covered with small red points. That is the first sign of measles, which always begins that way. I learned it from an old lady who was the general nurse in that neighborhood. When I began practice I found that most of the old timers knew it. One I recall who attended only one course of lectures, who said, "When I am called to see a child and it has the snuffles and the eyes are watering, I look in the throat first to see if I shall quarantine."

Several years ago at one of our county society meetings, measles was under discussion. There were present several recent graduates, one a woman. She was up to date and spoke of the Koplik sign as the latest thing in diagnosis. The name was a new one on me; I had never any trouble in the diagnosis for I had always looked in the mouth, and I was ashamed to get up and confess my ignorance. Next day I met one of the members and asked him what was that new diagnostic symptom. He told that a wonderful German, down east, had discovered that before measles made its appearance on the skin it appeared on the inside of the cheeks and fauces. I was amazed, for I had known it when Koplik was a small child.

"There is nothing new under the sun."

George F. Beasley, M.D., Lafayette, Ind.

A NOVEL TRICK TO OBTAIN MORPHINE

To the Editor:—A man giving the name Webster recently called on me, saying that he had been referred to me for treatment by the superintendent of the cement mills here. He claimed that he had to use sulphate of morphine in intestinal irrigations for amebic dysentery, and in support of his statement he presented what purported to be a letter from Dr. ——— of Nashville, Tenn. This supposed letter said that the patient was incurable and that any physician would be doing a kind act to furnish him with 40 grains of sulphate of morphine or prescribe it for him. Dr. ———, by whom the supposed letter was purported to have been written, had, according to the letter, furnished the patient with scales for weighing out the quantity to be used and had given instructions as to dosage. Inquiry showed that the superintendent of the cement mills had not referred the patient to me. I did not fall into the trap. I have notified Dr. ———, whose name this patient used in his efforts to obtain morphine. I am writing to The Journal of the incident, however, in order that it may put physicians generally on their guard against this scheme.

John Asa Gibbons, M.D., Mitchell, Ind.

SODIUM PERBORATE FOR VINCENT'S ANGINA

To the Editor:—In his article on oral lesions due to Vincent's angina (The Journal, April 9, p. 1142), Dr. Joseph C. Bloodgood calls attention to the specific action of sodium perborate. The statement is made that "before trench warfare in France, in 1914, . . . a specific therapeutic agent had not been discovered." Unfortunately, there is a lack of liaison between dental and medical publications; hence I am calling your attention to the original publication.

In a paper read before the El Paso County (Texas) Medical Society in January, 1913, I reported the discovery of the specific action of sodium perborate in the treatment of Vincent's angina. This paper was published in the *Bulletin of the El Paso County Medical Society* in October, 1913 (5:9-14), and in the same month in the *Western Dental Journal* (27:13-18) and republished in the *Dental Digest* (20:478-482, 1914). On page 555 of the fifth edition of Modern Dental Materia Medica, Pharmacology and Therapeutics, Dr. Buckley says: "Dr. Henri Letord, a dentist of El Paso, Texas, is credited with being the first to bring the use of this drug [referring to sodium perborate] before the attention of the medical and dental professions."

I write this letter believing that you will be interested in having a correct record of this discovery.

Henri Letord, D.D.S., El Paso, Texas.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MALTED MILK NOT A BALANCED DIET

To the Editor:—I would greatly appreciate an expression from you as to the advisability of giving malted milk to babies and growing children. Do you regard malted milk as a *balanced* diet? In your judgment does it provide the five basic food elements—fats, proteins, carbohydrates, minerals and vitamins—in proper proportions?

Charles L. Summers, M.D., Baltimore.

Answer.—It is generally agreed that simple mixtures composed of cow's milk, water and sugar are most suitable as a substitute for breast milk in infant feeding. It has been shown by a number of observers that milk may be dried and still retain a considerable part of its antiscorbutic vitamin, provided it is dried quickly and packed in air-tight containers. On the other hand, it is probable that dried milks, though they may contain vitamins when freshly prepared, tend to lose them if kept for a considerable time before being used. McCollum and Davis believe that scurvy is more likely to occur with milk preparations that have been preserved for a long period.

It might be debatable whether malted milk is a well balanced diet. Analysis shows most of them to be largely carbohydrates, 67.95 per cent of the mixture being sugars, lactose, maltose and dextrins. The fat protein and ash contents are moderate in quantity.

For nearly every baby food, one may find a group of happy contented and fat babies who have thrived on it. On the other hand, the same food, when improperly, unwisely or excessively used may have caused rickets, scurvy or diarrhea, or have contributed its share in increasing the infant mortality.

On account of the high carbohydrate content of malted milk, fermentation and diarrhea may result from its use. Some older children and adults relish it as a beverage, and in acute illness it may be served as a nutritious food.

INDUSTRIAL HAZARD IN PAINTING BY SPRAY METHOD—DUCO PAINT

To the Editor:—The board of education is having some of its interior painting work done by spray guns in addition to having painting work done by brushes. A question has been raised as to the effect on the health of workmen operating these spray guns, using lithophone paint in the one case and lead and oil paint in the other case. It has been said that these operators are exposed to lead or benzene poisoning.

James F. Brown, Cleveland.

To the Editor:—Please tell us what is the best type of gas mask to be used by workers in Duco paint shops. Is there a standard code for ventilation, etc., for these Duco shops? If you do not have this information available could you tell us where we could find it out? Please omit name.

M.D., Minnesota.

Answer.—The literature concerning the hazards from the use of lead paint by means of mechanical sprays is relatively meager. Perhaps the best summary of the subject is that by Alice Hamilton, author of "Industrial Poisons in the United States," published by the Macmillan Company, 1925.

> There are two changes [says Dr. Hamilton] which have come fairly recently in the painters' trade, both of which have spread with great rapidity and both of which result in adding decidedly to the dangers of the industry. These are the use of quick-drying paints for interior decoration and the use of the so-called spray gun for applying paint. The spray method of painting and varnishing has increased in popularity with bewildering rapidity during the last few years. The danger is obvious. *A finely divided spray of lead paint or of paint which is lead free* but contains volatile thinners of the petroleum or coal tar series is a very difficult thing to handle without poisoning the air which the sprayer must breathe. Agricultural machinery, automobile bodies and furniture are now usually painted by spraying, and although an effort is made to safeguard the painter by the provision of cabinets with exhaust ventilation, the practical difficulties are great. A much greater problem is presented by the use of the spray gun in painting walls and ceilings and shelves and mantelpieces inside buildings.

About five years ago, N. C. Sharpe of the Toronto University "published a report of a very careful investigation of the hazards involved in using lead paint by the spraying method. He made up a paint with white lead for pigment, turpentine, linseed oil and benzine for the liquid vehicle, and this he used in a spray with a pressure of 35 to 55 pounds per square inch. Specimens of air were collected by Duckering's method, the samples being taken at the level of the painter's nose and mouth. Sharpe found that when lead paint is used in spraying the interior of buildings there is a decided danger of lead poisoning, but in spraying small objects inside a cabinet this danger may be prevented, provided there is an adequate exhaust properly placed, provided the cabinet is deep enough and of proper shape, and provided the object to be sprayed is not too large. If the exhaust is placed above the painter the spray will be drawn up past his face, and if the object is large and the painter stands directly in front of it spraying at a right angle, the spray will roll back toward him in spite of the exhaust.

"Sharpe tested masks, respirators, to see how much protection they afforded to men using the spray gun in interior decoration. 'Masks of comfortable breathing thickness moistened with a 5 per cent solution of sodium sulphide, reduced the amount inhaled from 232 mg. per 10 cubic meters of air to 12.4 mg., and a similar mask, but dry, allowed only 11 mg. to pass through. Both these results are still over the danger line', that is, Legge's limit of 5 mg. per 10 cubic meters of air. A really effective mask Sharpe believes, would not let through enough air to allow the man to do his work. Beating the dried overalls after spraying resulted in the recovery of dust containing from 2.79 mg. to 6.02 mg. of lead."

Lead paint is being used less and less in spraying machines. Quick drying and leadless paints, such as the lithophone paint mentioned by our correspondent, or various paints made from pyroxylin, such as Duco, are the ones coming into more general use. Complaints of ill health have been made from painters engaged in the use of these. In the latter cases, the chief hazard is from the solvents used. It is obvious, of course that in all cases where sprays are being used, irrespective of the paint, a factor of prime importance is proper ventilation.

A considerable amount of work has been done on the safe use of Duco as regards both fire and health hazards by the DuPont Company, Wilmington, Delaware. This has been published in a bulletin, which they will forward on inquiry.

The Universal gas mask, manufactured by the Mine Safety Appliances Company, Pittsburgh, is undoubtedly proficient for the purpose. These workers should be so protected by mechanical means, however, that they need not wear gas masks.

MEDICAL DISCOVERIES BY YOUNG MEN

To the Editor:—Please send me a brief list of the great discoveries made in medicine by comparatively young men, with the age of these men at the time the discovery was made, and the nature of the discovery. Please omit name.

M. D., Pennsylvania.

Answer.—We would suggest the following:

William Harvey described the circulation of the blood in 1628, at the age of 50.

Thomas Bartholinus described the existence of the thoracic duct in 1652, at the age of 36.

Jan Swammerdam observed red corpuscles in frog's blood in 1658, at the age of 21.

John Abernethy was the first to ligate the external iliac artery for aneurysm in 1796, at the age of 32.

Ephraim McDowell performed the first ovariotomy in 1809, at the age of 38.

Joseph Priestley discovered nitrous oxide in 1772, at the age of 39.

Rene Laennec invented the stethoscope in 1815, at the age of 34.

Crawford W. Long performed the first operation with the patient under the influence of ether in 1842, at the age of 27.

William Thomas Green Morton used ether in 1846, at the age of 27.

Lord Lister communicated his successful results in antisepsis to a meeting in 1867, when he was 40 years of age. He had graduated twelve years before.

Robert Koch discovered the tubercle bacillus in 1882, when he was 39 years old.

Von Behring first used diphtheria antitoxin in 1890, when he was 36 years old.

Frederick Banting discovered insulin in 1923, when he was 31 years old.

Madame Curie did her work on radium in 1899, when she was 32 years old.

Darwin did his work on the origin of species at 29 years, and Wallace his at 36 years.

Pasteur's epoch-making discoveries started with his work on ferments when 35 years old.

Servetus published his discovery of the blood circulation when 44 years old.

Eustachius completed his anatomic tables when 28.

Vesalius swept away Galen's anatomic errors with his Fabrica when 29 years old.

Fallopius completed his remarkable discoveries before he died at 39.

Ehrlich discovered mast cells and began his stain work when 23 years old.

Pare performed the first exarticulation of the elbow when 26 and published his book on gunshot wounds when 35.

Jenner began his observations on vaccination when not yet 30.

Lavoisier discovered oxygen when 32.

Neisser discovered the gonorrhea bacillus when 24, and Schaudinn *Spirochaeta pallida* when 34.

Bichat published his treatise on membranes when 28.

Semmelweis recognized the infectiousness of puerperal fever when 29.

Skoda systematized percussion and auscultation when 34.

Widal suggested his typhoid test when 34.

Claude Bernard, when 30, had already started his study of the glycogenic function of the liver.

Von Helmholz, at 26, had already established the law of conservation of energy.

Du Bois-Reymond, at 25, discovered the difference of potential between the cut and the uninjured ends of an excised muscle or nerve, and defined electrotonus.

Velpeau published the first detailed work on surgical anatomy when 28.

Carl Ferdinand von Graefe, when 29, devised the operation for cleft palate and founded modern plastic surgery, and his son Albrecht described keratoconus when 26 and introduced iridectomy in several eye conditions when 27.

Bell began publishing his anatomy when 30.

Hodgkin described the disease still bearing his name when 34.

Ricord established the differentiation of gonorrhea and syphilis when 32.

POULTICES IN PNEUMONIA

To the Editor:—Please let me have your opinion as to the value of poultices in the treatment of pneumonia.

Abelardo Gonzalez, M.D., Templeton, Pa.

Answer.—In the treatment of lobar pneumonia, poultices are probably valueless excepting to the degree to which they might exert an analgesic action against pain in the chest. By no stretch of imagination can one see how applications to the outside of the chest could affect the consolidation characteristic of this disease. In bronchopneumonia, on the other hand, general hyperemia of the chest wall might possibly be beneficial in lessening bronchial congestion, and, in this manner, improve aeration of the lungs, which probably explains the sense of relief that may be experienced.

SAFETY OF STERILIZATION PROCESS

To the Editor:—Please give me what you consider the consensus regarding the safety for surgical procedures of sterilization as done in a National sterilizer, or any similar steam pressure outfit such as is used in homes for canning fruit and vegetables. Please use initials only.

F. E. H., M.D.

Answer.—The steam pressure cooker has been used with safety in the canning of vegetables and meats. The processes involving their use which may be regarded as safe are given in a circular on processing, issued by the Bureau of Home Economics of the United States Department of Agriculture, Washington, D. C. The processes used in the canning of meats and vegetables which may be regarded as safe could be used for sterilization purposes of material used in surgical procedures.

One difficulty with these cookers, as they are sold, is that they are usually equipped with a single pressure gage. It is the opinion of many that such a type of cooker should be equipped with both a thermometer and a pressure gage, and the operator should also know that the two are in agreement. Of course, this precaution is suggested because one instrument will sooner or later get out of order. The thermometer is likely to last a good deal longer than the pressure gage.

One difficulty in using the small pressure cookers is that when they are heated on the stove, as they often are, the heating is rather slow. This does not interfere, however, with the safety of the products processed in them, since the time for processing begins when the holding temperature is reached. Therefore, if a pressure cooker is equipped with a thermometer and a pressure gage and both instruments are correct and in agreement, and the temperature reached (approximately around 115 C.) is maintained for a sufficient length of time, the pressure cooker could be used for the sterilization of material used in surgical procedures.

CONTINUANCE OF SYMPTOMS AFTER PROSTATECTOMY

To the Editor.—A man, aged 72, one and a half years ago had a prostatectomy at a reliable clinic. Now he still has to urinate every hour and has smarting afterward. Kindly advise me about treatment for him. What is "string bladder"?

M. D., Maine.

ANSWER.—The symptoms reported may be due either to a true recurrence or to a cicatricial contraction at the site of the enucleation. A recurrence is rather rare and originates in nodules left within the prostatic lobe. The diagnosis is established by palpation, by the fact that the urethra appears again to be elongated and by cystoscopy. The latter procedure is also employed for establishing the presence of a cicatricial contraction around the vesical outlet. The extent of a true recurrence or of the cicatricial constriction determines whether the obstacle has to be removed by excision through a suprapubic cystotomy or whether an endoscopic operation may be employed to advantage. For the latter intervention any one of the electric prostatotomes devised for this purpose may be used.

The term "string bladder" does not seem to denominate any well defined pathologic condition.

CAMEMBERT CHEESE

To the Editor.—I have been asked if the thick outer portion with the mold which forms the exterior of a Camembert cheese is eatable. I would also like to know what constitutes this mold and whether there is any advantage in eating or discarding it.

M.D., New York.

ANSWER.—The Camembert mold that forms the rind of Camembert cheese is eatable. The Camembert mold ripens the cheese from the outside, whereas in the case of Roquefort cheese the Roquefort mold grows within the cheese and *develops the Roquefort flavor.*

DIATHERMY IN PROSTATIC ENLARGEMENT

To the Editor.—What place, if any, has diathermy in the treatment of nonmalignant enlargement of the prostate; also, is it indicated in inflammation of the gland *with or without gonorrhea? If this treatment has* a place, what type of portable machine is the best and who is the maker? Of course, I refer to cases that have not come to the point at which a surgeon considers an operation indicated.

K. R. PARMENTER, M. D., Colorado Springs, Colo.

ANSWER.—True neoplastic enlargement of the prostate, whether benign or malignant, is not appreciably influenced by diathermy. In microbic inflammation of the gland, diathermy is a valuable therapeutic agent. One must distinguish between the symptomatic relief and the reducing of the inflammatory tumefaction. The latter may not always be accelerated, but the extreme sensitiveness of the swollen prostate and the concomitant rectal and vesical tenesmus are in practically all instances promptly alleviated.

An important factor is the duration of each treatment, which should extend to about thirty minutes. For this purpose tolerance of the rectum must be established. The bowel must be free of fecal matter. This is best accomplished by an oil enema, since medical catharsis is apt to increase the irritability of the rectum. In sensitive patients it will be necessary to obtund the excessive sensitiveness of the prostate and rectum by the previous insertion of a rectal suppository carrying some opiate. In this way, painful contractions of the prostate and seminal vesicles are prevented.

It is a matter of experience that the tolerance of the patient increases with each consecutive treatment. For heating the prostate, especially designed electrodes are used. The indifferent blocked tin electrode is placed on the abdominal skin. For the determination of the dosage, exact figures cannot be given. The operator should be guided by this point: The current is slowly started and increased until the patient reports a distinct sensation of warmth but not of heat. The latter instance calls for reduction of the current.

While skepticism toward excessive claims is justified, still diathermy, if properly applied, has pronounced merits. In chronic cases it is an indispensable component of the treatment. Any portable machine manufactured by firms whose advertisements are scrutinized and accepted by the American Medical Association will answer the demands of the operator.

PANCREOLS

To the Editor.—A member of my staff recently had a patient who had been advised to take Pancreols for diabetes. On page 44 of the enclosed pamphlet you will see what is going on. Can you report on this product and on the firm which exploits it?

W. W. P., M. D., New York.

ANSWER.—The pamphlet is a piece of advertising "literature" of the Drug Products Co., Inc., dealing, among others, with their product Pancreols (formerly called Insulols), claimed to be rectal suppositories "Containing Specially Prepared Desiccated Pancreatic Hormone-bearing Substance Containing the Active Principle of the Islands of Langerhans." In effect this preparation offers insulin for rectal administration.

A *note on Insulols* (the former name of Pancreols) appeared in THE JOURNAL, July 26, 1924, p. 289, pointing out that scientific evidence had not been offered for the value of this product. Reference was made to an article in THE JOURNAL, Sept. 1, 1923, p. 752, reporting the unsuccessful use of insulin administered in rectal suppositories, but attention was called to another article (THE JOURNAL, July 26, 1924, p. 301) which indicated that in animals absorption might occur in some instances. The work of Labbe, Nepveux and Forsans (*Bull. et mém. Soc. méd. d. hôp. de Paris*, Oct. 24, 1924, p. 1431), who found the rectal administration of insulin of little or no value, as compared to the subcutaneous route, against glycemia, glycosuria or acidosis, appears to establish the inefficiency of this method. THE JOURNAL (Feb. 25, 1927, p. 652) in an editorial comment on "The Uselessness of Insulin by Inunction" classes the administration of the drug by rectum among other methods which are "either mechanically difficult, inconclusive, inconstant, or wasteful of the drug."

No preparation of the Drug Products Co., Inc., has been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. A number of this firm's products have been reported on unfavorably, viz. Pulvoids Calcylates (THE JOURNAL, Sept. 9, 1916, p. 827; Propaganda for Reform **2**:85), Pulvoids Calcylates Compound (THE JOURNAL, June 14, 1919, p. 1784; Propaganda for Reform **2**:226), and Pulvoids Natrium Compound (Annual Reports of the Council on Pharmacy and Chemistry, 1916, p. 69; Propaganda for Reform **2**:108).

PARAPLEGIA DURING TREATMENT FOR SYPHILIS

To the Editor.—Will you kindly give your opinion regarding the sudden development of paraplegia (transverse myelitis) during intravenous treatment of syphilis with arsphenamine? Is there recent literature on the subject? Although I have had the opportunity of observing a large number of syphilitic patients over a period of years I have not encountered this condition until the last two years, since which time I have seen several. This has impressed me as being a type of Jarisch-Herxheimer reaction. Please omit my name.

M. D., California.

ANSWER.—The development of a transverse myelitis following the administration of arsphenamine is certainly exceptional and there are practically no reports of such a condition in the literature. The nearest approach to it is a report of an acute ascending myelitis by Viets (*Boston M. & S. J.* **188**:895 [June 7] 1923). In that article the author discusses the possibility of the occurrence of an acute myelitis similar to the hemorrhagic encephalitis that is known to occur, apparently as a direct result of the arsphenamine. The Jarisch-Herxheimer reactions strictly are skin manifestations that occur only in the early secondary stage of syphilis. The so-called neurorecurrences, in which cranial nerves are most often affected, are probably syphilitic and not due to the drug administered. In considering the possibilities it must not be forgotten that myelomalacia, often called transverse myelitis, is not an uncommon result of thrombosis of syphilitic vessels in the cord and develops as a rule during the late secondary stage. It seems more probable that the cases observed were of this nature than that they were reactions *due to the arsphenamine.* Villaverde (*Siglo méd.* **79**:654 [June 11] 1927) has seen transverse myelitis result from treatment of neurosyphilis in a considerable number of cases. In these instances, however, the treatment was administered by the intraspinal route.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alaska: Juneau, Sept. 6. Sec., Dr. Harry C. DeVighne, Juneau.

National Board of Medical Examiners, Parts I and II, Sept. 14-16. Applications should be made by August 14. Sec., Dr. John H. Rodman, 1600 Walnut Street, Philadelphia.

New Hampshire: Concord, Sept. 8-9. Sec., Dr. Charles Duncan, Concord.

Porto Rico: San Juan, Sept. 6. Sec., Dr. D. D. Biascoechea, *Box 804, San Juan.*

South Dakota: Huron, July 19. Dir. Medical Licensure, Dr. H. R. Kenaston, Bonesteel.

West Virginia: Martinsburg, July 26. Commissioner, Dr. W. T. Henshaw, Charleston.

Colorado January Examination

Dr. David A. Strickler, secretary of the Colorado Board of Medical Examiners, reports the written examination held at Denver, Jan. 4, 1927. The examination covered 8 subjects and included 80 questions. An average of 75 per cent was required to pass. Of the 6 candidates taking the physicians' and surgeons' examination, 4, including 3 osteopaths, passed and 2, 1 undergraduate and 1 osteopath, failed. Fourteen candidates were licensed by reciprocity and 2 by endorsement of their credentials. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
St. Louis College of Physicians and Surgeons	(1925)	88.3
Osteopaths		76.4, 82, 88.3

FAILED

College	Per Cent
Undergraduate	73.8
Osteopath	62

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
American Medical Missionary College, Chicago	(1904)	Wisconsin
Northwestern Univ. Med. School	(1899), (1906), (1919)	Illinois
Indiana University School of Medicine	(1925)	Indiana
Central Medical College of St. Joseph	(1897)	Missouri
University of Nebraska College of Medicine	(1924)	Nebraska
Bellevue Hospital Medical College	(1889)	Iowa
University of Buffalo School of Medicine	(1923)	New York
Pulte Medical College, Cincinnati, Homeopathic	(1897)	Ohio
Jefferson Medical College of Philadelphia	(1923)	Penna.
Meharry Medical College	(1915)	Texas
Memphis Hospital Medical College	(1911)	Tennessee
University of Vermont College of Medicine	(1921)	Mass.

ENDORSEMENT OF CREDENTIALS

College	Year Grad.	Endorsement with
St. Louis University School of Medicine	(1924)	U. S. Navy
Washington University School of Medicine	(1925)	U. S. Navy

Montana April Examination

Dr. S. A. Cooney, secretary of the Montana Board of Medical Examiners, reports the written examination held at Helena, April 4-6, 1927. The examination covered 10 subjects and included 50 questions. An average of 75 per cent was required to pass. Of the five candidates examined, 4 passed and 1 failed. Two candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
College of Physicians and Surgeons, Chicago	(1903)	88.5
State University of Iowa College of Medicine	(1926)	88.5
University of Michigan Medical School	(1919)	84.7
Washington University School of Medicine	(1924)	83.6

FAILED

College	Year Grad.	Per Cent
Hospital College of Medicine, Louisville	(1904)	59.4

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
Keokuk Medical College, Coll. of Phys. and Surgs.	(1906)	Iowa
University of Minnesota Medical School	(1900)	Minnesota

District of Columbia April Examination

Dr. Edgar P. Copeland, secretary of the Board of Medical Supervisors, District of Columbia, reports the oral and written examination held in Washington, April 12-14, 1927. The examination covered 16 subjects and included 80 questions. An average of 75 per cent was required to pass. Fourteen candidates were examined, all of whom passed. Four candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
[illegible] :hool o[illegible]	[illegible]	87.2
[illegible] ersity [illegible]	[illegible]	80.6
[illegible] Medi[illegible]	[illegible]	85.9, 91.8
[illegible] iool of Med. (1915) 79.9,	(1922)	87.3
[illegible] ool	(1924)	88.4
[illegible] (1912) 89.7,	(1918)	86.3
[illegible] School of Medicine	(1897)	83.6
[illegible] of South Carolina	(1922)	87.4
[illegible] of Medicine	(1926)	86.7
University of Virginia Department of Medicine	(1926)	83.5
University of Western Ontario Medical School	(1921)	91.5

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
University of Louisville School of Medicine	(1915)	Virginia
Southern Homeopathic Medical College, Baltimore	(1906)	Maryland
Tufts College Medical School	(1921)	Maine
University of Pennsylvania School of Medicine	(1909)	California

Book Notices

Muscular Contraction and the Reflex Control of Movement. By J. F. Fulton, B.Sc., M.A., Ph.D. Cloth. Price, $10. Pp. 644, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

Not since the publication of Sherrington's Integrative Action of the Nervous System has such a monumental scientific compilation and critical analysis of muscular contraction and the nature of its reflex control been published. The volume details the advances in this field since 1906 and is a companion volume to Sherrington's classic. Full description is given of advances made into the mode of action of the central nervous processes on the basis of modern methods of attack. Part I, dealing with the nature of the contractile response of individual skeletal muscle fibers, is based on the author's own researches. The extensive bibliography indicates the grasp of the literature possessed by the author. The book fulfils a want long felt in physiologic circles. It will furthermore be heartily welcomed by those few clinical neurologists who themselves are interested and active in helping to unravel the intricacies of nervous action in health and disease. For such the book is indispensable. The general practitioner would find it much too technical and "scientific."

Obstetrics for Nurses. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Eighth edition. Price, $3 net. Pp. 635, with 267 illustrations. Philadelphia: W. B. Saunders Company, 1927.

The fact that this book has reached its eighth revision and has been reprinted thirty-seven times during the last twenty-three years is an indication of its popularity. And there is no doubt that its popularity is well deserved. The present volume is somewhat larger than the previous ones, and is enriched by the addition of many new illustrations. Special attention is again devoted to the subjects in which nurses can be of particular help in obstetrics; namely, prenatal care, puerperal infection, the toxemias and the complications of labor. The author does not lose sight of the fact that the majority of births still occur in the home, and the nurses are explicity instructed in the care of the patients there. As in previous editions the text is down to date and includes everything that can be of use to a nurse who has the care of an obstetric patient. The illustrations are most abundant, unusually clear and very instructive. Those of the methods of identification of the baby show that at the Chicago Lying-In Hospital five different methods of identification are used for each baby; hence the danger of exchanging babies is reduced to a minimum. The section on analgesia includes a detailed account of Gwathmey's synergistic method, and the section on anesthesia contains a discussion on ether, chloroform, nitrous oxide and ethylene. In the section on the preparation of the patient, the author discusses not only the usual scrub and flush method but also the use of iodine and of mercurochrome-220 soluble. The author devotes a number of pages to pelvic mensuration. In addition to giving the usual information, he cites specific cases of contracted pelvis and discusses the kind of labor to be expected in these cases. Such a discussion makes the subject of pelvic measurements very practical. The chapters on the care of the babies, especially the one on premature infants, are most instructive. Even a hasty perusal of the book will indicate why it is the most used textbook for nurses. It is written in an easy, delightful style by a person who, for more than thirty-five years, has been teaching not only students of medicine and graduate physicians but also nurses. The information given is practical and is of use to the nurse in the most elaborate maternity hospital as well as in the dirtiest hovel. The continued popularity of the book is certain. It is unfortunate, however, that better paper was not used.

La cesárea extraperitoneal y la transperitoneal suprasinfisaria sus modalidades técnicas y sus finalidades terapéuticas. Por Mateo Carreras. Paper. Pp. 106, with illustrations. Madrid: Javier Morata, 1927.

The purpose of this book is to familiarize Spanish-speaking physicians with the low, cervical cesarean section. The author first reviews the history of the development of the cervical operation and discusses nearly every type of cervical cesarean section both extraperitoneal and intraperitoneal. In addition there is a description accompanied by illustrations of the recent exteriorization operation of Portes, which is a modification of the Gottschalk operation. Not only are the different forms of the operation discussed but also such matters as anesthesia, extraction of the fetus, tamponade of the uterus, sterilization and drainage. Among the indications for the operation the author considers not only contracted pelvis but also placenta praevia, eclampsia, prolapse of the umbilical cord, cervical cancer and transverse presentations. The book is written in a clear and simple style, the type is large and distinct, and the illustrations are instructive. Mention is made of Wetterwald's recent review on rupture of the uterus after the cervical type of cesarean section. Unfortunately, the author has limited his sources of information to German, French and Spanish authorities. Americans, particularly De Lee and Beck, and the English, especially Munro Kerr, have contributed to the improvement of the cervical operation. Regardless of this the book will most likely and properly enhance the popularity of cervical cesarean section among Spanish-speaking physicians.

Applied Refraction. By Homer Erastus Smith, M.D., Assistant Surgeon, Manhattan Eye, Ear and Throat Hospital, New York City. Cloth. Price, $2.75. Pp. 131, with 9 illustrations. New York: William Wood & Company, 1927.

This is not a compendium nor yet a textbook on refraction but rather the observations gathered through thirty years of experience by a clinical ophthalmologist. It is a chatty, discourseful book written for his brother practitioners.

Tiger Trails in Southern Asia. By Richard L. Sutton, M.D., Sc.D., LL.D., Professor of Dermatology, University of Kansas. Cloth. Price, $2.25. Pp. 207, with 115 illustrations. St. Louis: C. V. Mosby Company, 1926.

For the most of us life is a round of drab reality. If we want to be devilish we take an afternoon off for a game of golf or go to a baseball game. The limit of adventure is a week in the woods, where we catch a few small game fish and have our lunches out of skillets and brag about it, more or less, for the rest of the year, or—event of a lifetime—a tourist cruise to the West Indies or to the Mediterranean. Sutton is made of no such Lilliputian stuff. He did all these things when he was young in sport. He has long since exhausted the hunting fields of America. Now, having caught and shot everything of size that is not protected by the game laws in our country, he has in later years sought larger thrills and has picked out for his excursions the out-of-the-way haunts of game of the earth. He is a wise man, or perhaps he has acted wisely in spite of himself; for his great hunting expeditions are evidently in response to an instinctive urge that was irresistible. It has taken him into some rare places, given him some rare experiences for an apparently staid doctor, and enabled him to enjoy adventures that are beyond the dreams of the rest of us, who hunt, instead, the pediculus, the acarus and the microbe. Wise man—and tough—for none other would have had the hardihood to undertake, or the endurance to survive, his hunting trips.

Many of us are familiar with the exceedingly interesting account of his trip to the plateau of British East Africa after lions and elephants and other big game there. Now he has sought even more remote haunts of big game, and in this book records his hunting trip in southeastern Asia. This journey took him into the wilds of French Indo-China after tigers. Incidentally he got all sorts of other dangerous and interesting game, including elephants; but as the elephants there only run about five or six tons they do not excite much interest for him—it takes about a 16 ton elephant, the kind they get in Africa, to give him excitement. Sutton has developed to the point where his hunts, as a matter of course, are successful. This one was so to a notable degree. Anybody going on the same sort of journey can do well to get the advice about how to do it that he gives in this book. The book gives also an exceedingly interesting account of many things pertaining to such a journey. It is interesting as hunting, interesting in its accounts of wild animals, and interesting as travel. The style is good and lively, with none of the braggadocio that is apt to creep into such books. It is not only a book to be recommended to the hunter but it will be highly interesting, as well as valuable, to every doctor, to show him how a man, even in our quiet sort of occupation, can get fun out of life if he tries.

We are glad he went for his own sake and in order that he can tell us about it. We look forward with keen anticipation to his next volume "Trailing the Man-Eating Savages of the Upper Amazon."

Concerning Aneurysms. The Third Gordon Bell Memorial Lecture Delivered Before the Winnipeg Medical Society, on April 1, 1926. By Oskar Klotz, Professor of Pathology and Bacteriology, University of Toronto. University of Toronto Studies, Pathological Series. Paper. Price, 50 cents. Pp. 74. Toronto: University of Toronto Press, 1926.

In this lecture, Klotz has once more brought together the results of studies of diseases of arteries, a subject in which he has displayed considerable interest for many years. The evolution of our understanding of aneurysm, the history of syphilis and a discriminating consideration of the possibility that its first appearance in Europe was due to importation from America by the sailors with Columbus and other pioneer explorers are presented briefly in an account that is enjoyable reading. There are also excellent descriptions of the various types of arteriosclerosis which should serve the demands of medical students far better than does the treatment given them by the textbooks of pathology that have so far appeared in English. Such descriptions are, moreover, incidental, for the main theme is aneurysms. The English is a little careless in spots; for example, "the syphilitic process upon arteries," and "in consequence to inflammatory processes" (p. 26); "the bacterial mass in the latter instance formed the embolus which is microscopic in size and which occludes . . ." (p. 49). This feature may, however, be concerned solely with the hazards of publication. Aneurysms of the heart and of the leaflets forming the heart valves have no place in this work. The splendid work of Vestberg in 1897 on acute dissecting aneurysms of the heart and the important relation the anatomic structure of the periaortic space of Vestberg bears to such aneurysms are not mentioned. Recent studies of the possible rôle of lymph channels in the spread of syphilis in the aorta and of the mechanical forces concerned with the peculiarities of its location and distribution in the root of the aorta are certainly of great interest, and they merit, perhaps, more notice than they have received in a monograph such as this and so largely a review of literature. Nor are there any comments on what takes place in the intramural channels, or in the walls of branches of the aorta when the aortic wall is split by dissecting aneurysms, where such branches have their origin. The importance of this sequence of dissecting aneurysm of the aorta and the possibility that symptoms of great value for its recognition during life are caused by disturbances of circulation in the regions supplied by such branches are most intimate essentials of this topic. One naturally searches for the numerous personal experiences of the author and cherishes them when they are found. Among these are details of his knowledge of syphilis in Brazil, his search for the parasite of syphilis in diseased aortas, and observations of eleven aneurysms in children under 15 years of age. These are among the important matters that add greatly to the value of this presentation With the ending of its reading, there comes an earnest desire that from his pupils and the author the medical profession may still be served with the results of additional investigations and studies of the diseases of human arteries

Surgical Nursing and the Principles of Surgery for Nurses By Russell Howard, C B E, M S, F R C S, Surgeon, London Hospital Fifth edition Cloth Price $3 Pp 320, with illustrations New York Longmans, Green & Company, 1926

This book is based on lectures to the probationer nurses at the London Hospital An effort is made to instruct them in the fundamental principles of surgery and in the nursing of surgical patients There is a rather detailed discussion of such surgical problems as infections, inflammations, wounds, specific infections, hemorrhage, shock, new growths and burns The operative nursing and care of patients after operations on the various regions of the body are considered, including fractures and the special care of infants Bandaging and massage, with numerous prescriptions used in the postoperative care of these patients, are added

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1926, with comments that have appeared in The Journal Cloth Price, $1 Pp 73 Chicago American Medical Association 1927.

This volume contains the unabridged Council reports that have been adopted and authorized for publication during 1926 Some of these reports have already been published in The Journal, others have never been published elsewhere The book thus makes available the actions of the Council on all products which have been denied admission to New and Nonofficial Remedies or which have been omitted from that book during the year In addition, the book contains several special reports authorized by the Council in 1926

Reports are given on the following articles found not acceptable for New and Nonofficial Remedies Allonal, Animasa, three benzyl benzoate preparations, Ceanothyn, Cresog, Firma Chloro, Idozan, Malt Nutrine, Murarsenide, Naftalan, Neo-Reargon Nontox, Numoquin, Oleosolution, "Pabst Extract—The 'Best' Tonic," Phenoseptine Cones and Phenoseptine Powder, Pollen Antigen Spring Type-Lederle, Rad-X-Solution A, Rad-X-Solution B, Robes' Antirheumatic Injections, Sodium Methylarsenate (De Marsico), Ster-Alco, Sulcitacium, Tetradol, Thymo-Borine, Toxivi, Toxok and Triophos Besides these there are a number of reports on articles that have been omitted from N N R

The volume also contains the following special reports of current interest to physicians a report on the status of bacillus acidophilus and bacillus bulgaricus therapy, on the basis of which the N N R article on Lactic Acid-Producing Organisms has been revised and rewritten, a report dealing with the esteem in which antistreptococcus serum is now held by leading surgeons, gynecologists and obstetricians, prepared by Dr Emil Novak on the basis of the answers to a questionnaire sent to representative members of these groups, and a preliminary report on the status of the new drug ephedrine

Handbuch der experimentellen Pharmakologie Herausgegeben von A Heffter, und W Heubner, Professor der Pharmakologie an der Universitat Gottingen III Band 1 Hälfte—Die osmotischen Wirkungen Schwer resorbierbare Stoffe, usw, usw Paper Price, 57 marks Pp 619, with 62 illustrations Berlin Julius Springer, 1927.

Any one who has seen and used the previously issued instalments (volumes 1 and 2) of this great work on pharmacology will welcome the present first half of the third volume The publication of this handbook, begun about fifteen years ago, has encountered a number of misfortunes. The World War broke out just as the first manuscripts were received, so that it was not until 1919 that the first half of the first volume could be published The recent death of Arthur Heffter, the originator of the ambitious plan, to publish as thorough and systematic a complete exposition as possible of all the work done on experimental pharmacology, was another heavy blow to the enterprise, fortunately met by the election of Wolfgang Heubner to the important position of editor-in-chief. The present instalment includes a presentation of the pharmacology of inorganic substances, excepting the heavy metals, which are to be taken up in the final instalment, to be published shortly.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender Selections will be made for more extensive review in the interests of our readers and as space permits Books listed in this department are not available for lending Any information concerning them will be supplied on request

Practical Methods in the Diagnosis and Treatment of Venereal Diseases for Medical Practitioners and Students By David Lees, D S O M A, M B, Surgeon in Charge of Venereal Diseases, The Royal Infirmary, Edinburgh With an introduction by Wm Robertson, M D, F R C P, D P H, Medical Officer of Health, Edinburgh Cloth Price, $5 Pp 605, with 87 illustrations New York William Wood & Company, 1927

Brief practical guide to the care of venereal disease

The Home Nurse's Handbook of Practical Nursing A Manual for Use in Home Nursing Classes in Young Women's Christian Associations in Schools for Girls and Young Women and a Working Text Book for Mothers, "Practical Nurses Trained Attendants, and All Who Have the Responsibility of the Home Care of the Sick By Charlotte A Aikens, R N Fourth edition Cloth Price, $2 net Pp 326, with illustrations *Philadelphia W B* Saunders Company, 1927

Thousands of details of nursing procedure

Birth Injuries of the Central Nervous System Part I—Cerebral Birth Injuries By Frank R Ford Johns Hopkins Hospital Part II—Cord Birth Injuries By Bronson Crothers and Marian C Putnam, Harvard Medical School Medicine Monographs Volume XI Cloth Price, $4 Pp 164, with 56 illustrations Baltimore Williams & Wilkins Company, 1927

Monograph showing how wrong traction during forcible delivery produces permanent injury

The Normal Chest of the Adult and the Child, Including Applied Anatomy, Applied Physiology, X Ray and Physical Findings By J A Myers Associate Professor of Preventive Medicine, Medical and Graduate Schools University of Minnesota and Others With an introduction by Elias P Lyon Cloth Price, $5 Pp 419, with 141 illustrations Baltimore Williams & Wilkins Company, 1927

Accumulation of fundamental data relating to the normal human chest

Nutrition of Mother and Child By C Ulysses Moore, M D, M Sc, F A C P, Collin's Fellow in Nutritional Research, University of Oregon Medical School Including Menus and Recipes by Myrtle Josephine Ferguson, B S, B S in H Ec Third edition Cloth Price, $2 Pp 236, with 33 illustrations Philadelphia J B Lippincott Company, 1927

Simple presentation of elementary facts for infant feeding

Chemical Laboratory Manual Prepared to Accompany Bogert's "Fundamentals of Chemistry" A Text Book for Nurses and Other Students of Applied Science By L Jean Bogert, Ph D, Research Chemist Obstetrical Department, Henry Ford Hospital Cloth Price, $1 50 net Pp 142, with 23 illustrations Philadelphia W B Saunders Company, 1927

Elementary guide to simple chemical experiments

The Pathological Findings in Four Autopsied Cases of Acromegaly, with a Discussion of Their Significance By Harvey Cushing, and Leo M Davidoff Monographs of the Rockefeller Institute for Medical Research No 22 Paper, $2 Pp 131, with 104 illustrations New York Rockefeller Institute for Medical Research, 1927

Monograph concluding that anterior pituitary lobe is key of the endocrine arch

Die Neurosen des Kindesalters mit besonderer Berucksichtigung von Lebensschwäche und Schwererziehbarkeit Von Dr W Cimbal, Oberarzt am Stadtkrankenhaus in Altona Paper Price 15 marks Pp 509, with 24 illustrations Berlin Urban & Schwarzenberg, 1927

Neuroses of children with special reference to the "difficult child"

Spirochaetal Jaundice By G Buchanan, M D, Ch B, D P H Medical Research Council Special Report Series, No 113 Paper Price, 4s net Pp 64 with illustrations London His Majesty's Stationery Office, 1927

Complete monographic study with good bibliography of recent investigations of this specific spirochetal disease

Fish and Sea Food Recipes Covering the Entire Industry Boards Price, 10 cents Pp 96 New York United States Fisheries Association, 1927

Management of the Sick Infant. By Langley Porter, B.S., M.D., M.R.C.S., Professor of Clinical Pediatrics, University of California Medical School, and William E. Carter, M.D., Instructor in Pediatrics, University of California Medical School. Third edition. Cloth. Price, $8.50. Pp. 726. St. Louis: C. V. Mosby Company, 1927.

New edition with few important revisions.

The Heart and Its Diseases. A Handbook for Students and Practitioners. By Charles W. Chapman, M.D., M.R.C.P., Consulting Physician to the National Hospital for Diseases of the Heart, London. Cloth. Price, $3.50. Pp. 216, with 52 illustrations. New York: William Wood & Company, 1927.

Outline of care of cardiac disorders.

Hygiene and Sanitation. The Essentials of Modern Health Care. By Jesse Feiring Williams, M.D., Professor of Physical Education, Teachers College, Columbia University. Cloth. Price, $2 net. Pp. 344, with 52 illustrations. Philadelphia: W. B. Saunders Company, 1927.

Practical guide to health care of the individual, the city and the nation.

An Introduction to Neurology. By C. Judson Herrick, Professor of Neurology in the University of Chicago. Fourth edition. Cloth. Price, $2.75 net. Pp. 406, with 140 illustrations. Philadelphia: W. B. Saunders Company, 1927.

New edition of well established guide to neurologic anatomy.

Exploration clinique et diagnostic chirurgical. Par Félix Lejars, professeur de clinique chirurgicale à la faculté de médecine de Paris. Second edition. Cloth. Price, 120 francs. Pp. 911, with 1094 illustrations. Paris: Masson & Cie, 1927.

New edition of well known guide to French surgical practice.

Tiger Trails in Southern Asia. By Richard L. Sutton, M.D., Sc.D., LL.D., Professor of Dermatology, University of Kansas. Cloth. Price, $2.25. Pp. 207, with 115 illustrations. St. Louis: C. V. Mosby Company, 1926.

Handsome account of a dermatologist's pursuit of unusual skins.

The Wistar Institute Bibliographic Service. Volume III. Issued by the Wistar Institute of Anatomy and Biology. Paper. Price, $5. Pp. 323. Philadelphia: Wistar Institute, 1927.

References and abstracts of all articles appearing in nine Wistar Institute publications.

An Outline of Careers. *A Practical Guide to Achievement.* By Thirty-Eight Eminent Americans. Edited by Edward L. Bernays. Cloth. Price, $5 net. Pp. 431. New York: George H. Doran Company, 1927.

Discussion of requirements, opportunities and pitfalls of various professions.

Modern Methods in Nursing. By Georgiana J. Sanders. Fourth edition. Cloth. Price, $3 net. Pp. 854, with 216 illustrations. Philadelphia: W. B. Saunders Company, 1927.

Elements of nursing knowledge well assembled and thoroughly indexed.

Social Factors in Medical Progress. By Bernhard J. Stern, Ph.D. Cloth. Price, $2.25. Pp. 136. New York: Columbia University Press, 1927.

Interesting study of factors encouraging and delaying medical progress.

Biology, General and Medical. By Joseph McFarland, M.D., Sc.D., Professor of Pathology in the University of Pennsylvania. Fifth edition. Cloth. Price, $2.50 net. Pp. 475, with 151 illustrations. Philadelphia: W. B. Saunders Company, 1927.

New edition of standard guide to human biology.

Nurses and Nursing. By Alfred Worcester, A.M., M.D., Professor of Hygiene in Harvard University. Cloth. Price, $2. Pp. 173. Cambridge: Harvard University Press, 1927.

Reprint of idealistic essays on the nursing profession.

The First Estate. By Charles A. L. Reed. Cloth. Price, $2.50. Pp. 530. Boston: Stratford Company, 1927.

Every doctor has one novel in his system—this one is Dr. Reed's.

A Text-Book of Medicine. By American Authors. Edited by Russell L. Cecil, A.B., M.D., Assistant Professor of Clinical Medicine in Cornell University, and Foster Kennedy, M.D., F.R.S.E., Professor of Neurology in Cornell University. Cloth. Price, $9 net. Pp. 1500, with 29 illustrations. Philadelphia: W. B. Saunders Company, 1927.

Miscellany

HOSPITAL SERVICE IN DENMARK

The whole public health movement in Denmark has been centered around the practice of medicine and particularly around the hospital service. So far as the writer is aware [says Thomas Parran, Jr., *Pub. Health Rep.*, May 27] there is no country in which the hospital service has been more fully developed, whether viewed from the standpoint of type of buildings and equipment, quality of the service rendered to the average citizen, extent to which hospitals are used, or cost of the service to the patient. Practically all the general hospitals in Denmark are public institutions constructed by the municipalities or counties, or jointly by the two. The hospitals are well distributed over the country. Practically all of them are general hospitals in the truest sense, having special wards or buildings for the diagnosis or treatment of tuberculosis, for the treatment of epidemic and venereal diseases, and for the temporary hospitalization of mental cases. The closed staff principle is universal, and the hospital physicians live on the hospital grounds. When a case is sent to a hospital, the attending physician loses all responsibility for the patient. The municipal hospitals are under the direction of a special branch of the municipal government; those operated jointly by a city or county are jointly administered. The director, i. e., the head physician (or physicians) is usually employed on a part-time basis, being allowed to supplement his salary by private consultations at the hospital. An opportunity was afforded the writer to visit a number of the hospitals. One of the most interesting was the state hospital in Copenhagen, operated by the department of education primarily as a teaching center for the university medical school. The director of each department is ex officio professor in the university. This institution has accommodations for 1,000 patients; it was completed in 1910 at a cost of $2,000 per bed. Fifty-three per cent of the patients pay only 50 cents a day, and 20 per cent of them pay nothing. The operating cost is about $3.50 per patient daily, of which 16 per cent is paid by patient's fees. The training school for midwives is operated as a part of this hospital, and there is a large nursing school. The city of Copenhagen expends nearly $4,000,000 a year for its general, tuberculosis and insane hospital services, representing an annual per capita expenditure of approximately $6. The average cost per patient daily is slightly over $3, and this average cost seems to prevail generally throughout the country. The cost of hospital construction in Denmark is nearly as high as that in the United States. The buildings are of a very permanent nature and are well equipped as regards furniture, laboratory, roentgen-ray, hydrotherapy, heliotherapy, and physical therapy departments. Private rooms comprise only 10 per cent of the whole hospital capacity, the favorite arrangement being a system of four or six bed wards, in which adequate floor and air space is provided. Every county has one or more large central hospitals and several smaller ones. In all there are 175 general hospitals with more than 14,000 beds, or 4.5 beds per thousand inhabitants. This compares with 2.6 general hospital beds per thousand in the United States. The number of patient days amounts to 4,300,000, or 1.4 days in general hospitals for every inhabitant annually, as compared with 0.61 patient days in the United States. In comparing the hospital facilities of Denmark and this country it should be noted that Denmark has 4.5 and the United States 2.6 general hospital beds per thousand inhabitants, and that in Denmark these beds are 87 per cent and in the United States 67 per cent occupied. The number of beds per capita for mental and nervous cases is approximately the same in the two countries. The number of beds for tuberculosis cases in Denmark is 1.1 per thousand inhabitants, and in the United States 0.44. The number of beds in all types of hospitals is for Denmark 8.5 per thousand inhabitants, and for the United States 7.1. The figure for the United States, however, includes 1.0 bed per thousand in institutions, such as old age homes, while this class of hospital bed is not included in the Danish statistics.

Medicolegal

Application of Privileged Communications Statute

(New Orleans & N E R Co v Jackson (Miss), 110 So R 586)

The Supreme Court of Mississippi, division B, says that two trials were had of this action brought under the federal employers' liability act to recover damages for personal injuries On the last trial the only question to be determined by the jury was the extent of plaintiff Jackson's injuries and the amount of damages he was entitled to for such injuries Three physicians examined him to ascertain the extent of his injuries Two of them were introduced as witnesses in his behalf The other physician was offered by the defendant railroad company as a witness, but on objection of the plaintiff, was not permitted by the court to testify His testimony was material If allowed by the court it would have tended strongly to show that the plaintiff was not injured to the extent claimed by him and to the extent testified to by the two physicians who were permitted by the court to testify in his behalf The privileged communications statute of Mississippi (section 3695 code of 1906) provides, in substance, that all communications made to a physician or surgeon by a patient under his charge, or by one seeking professional advice, shall be privileged, and such physician or surgeon shall not be required to disclose them in any legal proceeding except at the instance of the patient The defendant contended that the statute, as applied in this case, had the effect of being more than a mere rule of evidence, that it affected the substantial rights of the defendant that it denied the defendant a hearing of its cause on its merits, that, so applied, the defendant was denied a right to which it was entitled under the federal employers' liability act and the applicable principles of the common law as interpreted by the federal courts But as this court views it, the privileged communications statute did not affect the substantive rights and obligations of the parties It is a statute affecting alone the competence of certain witnesses, is a mere rule of evidence, and so is applicable in an action under the federal employers' liability act

Action for Malpractice Barred by Defense to Bill

(Leslie v Mollica (Mich) 211 N W R 267)

The Supreme Court of Michigan, in affirming a judgment for the defendant physician in this action to recover damages for alleged malpractice in treating the plaintiff's fractured arm says that the judgment affirmed was rendered for the defendant on the ground that the plaintiff, when sued in a justice's court by the physician for medical services, made malpractice a defense and thereby defeated the physician's action for services When this action for malpractice was instituted the defendant contended that the plaintiff's use in the justice's court of his claim for malpractice exhausted his remedy for such injury, and it could not be made the basis of this action, while the plaintiff contended that section 12765 of the compiled laws of Michigan of 1915 sustained his right to plead malpractice by the defendant in defense of the suit in the justice's court, and on defeat of the defendant's action there for services, to bring this action for malpractice The statute mentioned provides that

> If any person professing or holding himself out to be a physician or surgeon shall be guilty of any malpractice, an action on the case may be maintained against such person so professing and the rules of common law applicable to such actions against licensed physicians and surgeons shall be applicable to such actions on the case, and such malpractice may be given in evidence, in bar of any action for services rendered by such person so professing

The purpose of this statute is apparent, it is aimed at empirics, and holds all such to the same accountability for malpractice as licensed physicians and surgeons This statute does not change, or attempt to change or enlarge, the common-law accountability of physicians and surgeons for malpractice An examination of the legislative history of the statute discloses that, from its inception in 1838, it was intended to apply to *any person not licensed as a physician* or surgeon but professing or holding himself out to be a physician or surgeon The defendant in the instant case was a licensed physician and surgeon, and the statute mentioned had nothing to do with the case

The suit in the justice's court, by the physician for his services, did not draw in issue, by its own force, the patient's independent cause of action for malpractice It was optional with the patient to make malpractice of the physician an issue in that suit, either to defeat recovery for services or to have damages awarded by way of recoupment or counterclaim, but this involved the hazard of losing all other remedy It is true that respectable authority is found holding that a recovery for services by the physician bars an action for malpractice by the patient, and, in jurisdictions where such rule prevails, the patient, when sued, is in quite a dilemma, for, if he does not defeat the action for services, the judgment for services is res judicata (an adjudication) that there was no malpractice Few cases, however, adopt such rule In some jurisdictions the rule only applies in case the patient appears and defends The better view, this court thinks, is that the actions, one by the physician for service and the other by the patient for malpractice, are *independent and remain so unless and until the patient, when* sued for services, injects the issue of malpractice, either to defeat the claim or to obtain damages by way of recoupment or counter claim The plaintiff's action for malpractice was indivisible, could not be split, and was employed in the justice's court as an affirmative defense and later as a foundation for this action

This court does not adopt the rule requiring the patient to make the defense of malpractice in the justice's court when sued by the physician for services He may do so, however This court is committed to the doctrine that an independent right of action in behalf of one sued may be put in issue or withheld at the option of the defendant But the plaintiff, although not required to make the defense of malpractice in the suit in the justice's court, elected to do so, and thereby visited on himself the legal consequences resulting The record did not disclose whether damages for malpractice were sought in the suit in the justice's court, but that was immaterial, as it was manifest that malpractice by the physician was alleged and employed as an affirmative defense, and defeated the physician's claim for services This court is constrained to hold that the plaintiff's use of his right of action for malpractice in defense of the defendant's claim for services in the suit in the justice's court barred this action

Permissible Exclusion from Practicing in Hospital

(Hayman v City of Galveston et al (U S), 47 Sup Ct R 363)

The Supreme Court of the United States, in affirming a judgment dismissing appellant Hayman's bill in which he asked for an injunction against the enforcement of any rule or regulation excluding him or other osteopathic physicians from practicing their profession in the John Sealy Hospital, maintained by the city of Galveston, and denying admission to patients who wished to be treated by him or other osteopathic physicians, says that the bill alleged that the state of Texas, acting through the board of regents of the state university, had leased to the city the land on which it was maintaining the hospital The lease stated that the state reserved the right of use of the operating amphitheater, the wards and grounds of the hospital by the faculty of the medical department of the state university, for purposes of clinical instruction of students attending the university in Galveston, and reserved also the right for such purposes to control the treatment of all charity patients

The appellant argued that the state constitution and laws conferred on him the asserted right which was infringed by the action of the hospital board But if it be assumed that the question presented was the same as though the state legislature had enacted the regulation adopted by the hospital board, the appellant failed to suggest, and the supreme court fails to perceive, any substantial basis for asserting that rights guaranteed to him by the fourteenth amendment to the constitution of the United States had been infringed The *only protection claimed here was that of the appellant's* privilege to practice his calling. However extensive that protection might be in other situations, it cannot, the supreme court thinks, be said that all licensed physicians have a constitutional right to practice their profession in a hospital maintained by a state or a political subdivision, the use of which is reserved for purposes of medical instruction. It is not incumbent on the state to maintain a hospital for the private practice of medicine.

But it was argued that, if some physicians were admitted to practice in the hospital, all must be, or there is a denial of the equal protection of the laws. Even assuming that the arbitrary exclusion of some physicians would have that legal consequence in the circumstances of this case, the selection complained of was based on a classification not arbitrary or unreasonable on its face. Under the Texas constitution and statutes any one who shall "offer to treat any disease or disorder, mental or physical, or any physical deformity or injury by any system or method, or to effect cures thereof" is a physician and may be admitted to practice within the state. This court cannot say that a regulation excluding from the conduct of a hospital the devotees of some of the numerous systems or methods of treating diseases authorized to practice in Texas is unreasonable or arbitrary. In the management of a hospital, quite apart from its use for educational purposes, some choice in methods of treatment would seem inevitable, and a selection based on a classification having some basis in the exercise of the judgment of the state board whose action is challenged is not a denial of the equal protection of the laws.

The validity of the action of the board under the Texas constitution was also before the court. Article 16, section 31, of the Texas constitution provides that:

> The legislature may pass laws prescribing the qualifications of practitioners of medicine in this state, and to punish persons for malpractice, but no preference shall ever be given by law to any schools of medicine.

The limitation of the provision is obviously directed to the qualifications of those to be admitted to the practice of their profession in the state, and has nothing to do with the qualifications of those who are to be allowed to practice in a state hospital or to participate in an educational enterprise conducted by the state. The action of the board of managers of the hospital, which it was alleged had made regulations excluding the appellant and other licensed osteopathic physicians from practicing in the hospital and excluding patients who desired to be treated by the appellant or other osteopaths, did not violate rights or immunities guaranteed by either the state or the federal constitution.

Physician Not Liable for Labor Pains

(Adkins v. May (Ky.), 288 S. W. R. 735)

The Court of Appeals of Kentucky, in reversing a judgment for $200 damages that was rendered in favor of the plaintiff, Mrs. May, for alleged malpractice, says that it appeared that when the defendant was called he went to the plaintiff's home with a trained nurse. He found that the plaintiff had had an incomplete miscarriage, and that there was a considerable hemorrhage. Being unable to remove the remainder of the fetus, he packed the womb with gauze in order to stay the hemorrhage and bring on labor pains, telling the plaintiff and those at her bedside to leave the packing there and he would return. The patient and a woman with her said that the defendant told her that the child was born and that she was all right, while he denied that he made such statement. All the physicians who testified in the case said that the method of treatment adopted was proper. After the defendant left, the plaintiff's labor pains came on sooner than was expected, and the remainder of the fetus came out. The plaintiff's husband said that he would get another physician. While going for one, he met the defendant, told him of the situation, and the defendant said that he would go to the plaintiff's home. Thereupon the husband said that he was going to get another physician.

There was no evidence that the method of treatment was improper, although there was some evidence to the effect that if a physician had been present when the labor pains came on he might have lessened the plaintiff's suffering. But the physicians all agreed that in the circumstances it was not improper for the defendant to leave for a short period of time to go to his office, where he could readily be reached in case of emergency. That being true, the plaintiff's case turned on whether the defendant's alleged statement that the child had been born was actionable negligence. As the defendant packed the womb for the purpose of bringing on labor pains and causing the fetus to be discharged, it was highly improbable that he stated that the child had been born; but, assuming, as this court must in view of the evidence, that this statement was made, the question was, was it such negligence as to authorize a recovery? The plaintiff's insistence was that if she had known that the child had not been born she would have secured the services of another physician, but whether in view of the fact that she already had a physician employed she would or could have secured the services of another physician in time to lessen her suffering was a matter of pure speculation. In other words, the case was one in which it was so highly probable that the plaintiff would have undergone the same labor pains had the alleged false statement not been made, and so highly improbable that the alleged false statement added to or contributed to her suffering in any way as to make the question a matter of guess work, and therefore such as should not have been submitted to the jury. It followed that the defendant's motion for a peremptory instruction should have been sustained.

Inference from Not Calling Physicians as Witnesses

(Nelson et al. v. Public Service Trans. Co. et al (N. J.), 135 Atl. R. 467)

The Supreme Court of New Jersey says that this action was instituted by Mrs. Nelson and her husband to recover damages arising from an injury alleged to have been received by her when a passenger in a bus of the company. After the accident she was treated by two physicians. She complained of an injury to her arm, which prevented her from keeping boarders. So far as damages were concerned, the plaintiffs relied on their own testimony. The two physicians were not called by them as witnesses. The defendants called two physicians, who testified that they had examined Mrs. Nelson. One of them testified that his examination was made eleven or twelve days after the accident, and the only objective condition she had was a slight discoloration of the right arm. The other symptoms were subjective. The other physician made his examination between six and seven months after the accident, and testified that he did not find anything to indicate any physical injury or any organic or nervous condition. The jury returned a verdict in favor of Mrs. Nelson for $75 and for Mr. Nelson of $25. The court cannot say that the amounts of the verdicts were not supported by the testimony, or that they showed any passion or prejudice on the part of the jury against the plaintiffs. The plaintiffs did not call the physicians who had attended Mrs. Nelson immediately after the accident. The jury had the right to infer that they were not called because, if called, they would not testify favorably to the plaintiffs on the subject of Mrs. Nelson's injury.

Privilege Not Waived by Introducing Proofs of Death

(Acee v. Metropolitan Life Ins. Co. (N. Y.), 219 N. Y. Supp. 152)

The Supreme Court of New York, appellate division, fourth department, says that at the trial of this action to recover on a life insurance policy the defendant was permitted to introduce the testimony of physicians who had attended the insured. They testified that she was suffering from heart and kidney disease long before and at the time the policy was issued. The testimony was received over the objection of the plaintiff that it was incompetent, and that the witnesses were incompetent under section 352 of the civil practice act of the state, which provides that a physician "shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity." That the testimony was improperly received, unless the statutory provision was waived, is established beyond question. But it was urged that the plaintiff had waived the provisions of section 352 and made the testimony competent by introducing in evidence the proofs of death which were served on the defendant, particularly in view of the fact that the policy contained a provision that "proof of death shall be evidence of the facts therein stated in behalf of, but not against the company" The policy also provided that "proofs of death shall be made on blanks to be furnished by the company and shall contain answers to each question propounded to the claimant, physicians and other persons" The attending physician answered the questions on the printed form, and the plaintiff, in establishing his case, introduced the proofs of death in evidence The defendant insisted that the introduction of the proofs of death in evidence opened the door for it to call other physicians to testify to what they discovered while treating the insured in a professional capacity but the court holds otherwise—that the introduction of the proofs of death did not have the effect of waiving the privilege Under section 836 of the code of civil procedure as amended in 1891 and section 354 of the civil practice act the only one who can waive the privilege is the personal representative, and it can only be waived on the trial when the evidence is offered

Validity of Will of Person Mentally Weak—Insanity

(In re Sexton's Estate (Calif) 251 Pac R 778)

The Supreme Court of California, in reversing an order which granted a new trial after a verdict upholding the will contested in this case says that this was a case of a loss of mental power, not one of an irregular working of the mental faculties, but of a ceasing to work with normal strength It was the contestant's theory at the trial that the mental processes of the testatrix were so benumbed by paralytic strokes that her mind was not strong and clear enough to make a valid disposition of her property by will A careful consideration of the testimony of the contestant's witnesses left in the mind the composite mental picture of a woman 61 years of age at the date of the execution of the will, grown old before her time feeble in body mentally weak, and given to an habitual quiescence and a torpor peculiar to those who have suffered from cerebral hemorrhage While a survey of all the facts might warrant a diversity of opinion as to the exact state of her mind and the precise degree of mental capacity retained by her, it was evident that there was not such a complete prostration or alienation of intellect as to incapacitate her from making a testamentary disposition of her property According to the testimony of the proponents' witnesses, uncontradicted by any direct evidence to the contrary, the plan of the will was the product of the testatrix's own mind, uninfluenced by the advice or dictation of any other The mind that so planned must have had testamentary capacity

A testator is of sound and disposing mind and memory if, at the time of making his will, he has sufficient mental capacity to be able to understand the nature of the act he is doing, to understand and recollect the nature and situation of his property, and to remember and understand his relations to the persons who have claims on his bounty and whose interests are affected by the provisions of the instrument The actual mental condition of the testator at the time of the execution of the will is the question to be determined Evidence as to mental condition before and after the execution of the will may be relevant and admissible, but it is important only so far as it tends to show mental condition at the time of executing the testamentary document That is to say, facts as to mental condition, whether anterior or subsequent to the date of the execution, depend for their probative force on the clearness and certainty with which they tend to demonstrate the condition of mind and memory at the moment the will was executed Evidence of mental condition before or after the execution of the will, if it has evidentiary force, i e, if there exists a reasonable and logical relation between it and the issue as to mental competence at the moment of execution, is to be given such weight as the jury thinks it deserves

"Insanity" is a broad, comprehensive and generic term of ambiguous import In a medical sense, it is used to denote any unsound and deranged conditions of the mind, and every degree of mental unsoundness, whatever may be its source or cause But mere proof of mental derangement, or of insanity in a medical sense, is not sufficient to invalidate a will Not every degree of mental unsoundness or mental weakness will suffice to destroy testamentary capacity The contestant is required to go further than that He must either show such a complete mental derangement as denotes utter incapacity to know and to understand those things which a testator must be able to know and to understand in order to possess testamentary capacity, or he must show the existence of a specific insane delusion which affected the making of the will in question In other words, mental derangement sufficient to invalidate a will must be an unsoundness of mind in one of two forms (1) mental unsoundness of such broad character as to establish incompetence generally, or (2) some specific and narrower form of insanity under which the testator is the victim of some hallucination or delusion And, even in the latter class of cases, it is not sufficient merely to establish that the testator was the victim of some hallucination or delusion, it must be shown that the will was the offspring of the hallucination or delusion

Testamentary capacity is always presumed to exist until the contrary is established Ability to transact important business, or even ordinary business, is not the legal standard of testamentary capacity A person who has mental power to understand and to transact the ordinary business affairs of life, doubtless, has capacity to make a valid will But the converse is not necessarily true Mental perception and power to think and reason of a lesser degree than that which is required in the understanding and transaction of ordinary business may be all that is requisite to the full understanding of everything involved in the execution of a will

The Family Physician—Admissibility of Testimony

(Turner v Stoker (Texas), 289 S W R 190)

The Court of Civil Appeals of Texas, in reversing a judgment for $1,250 damages rendered in favor of plaintiff Stoker for alleged malpractice by the defendant, says that it does not understand that in order for a physician to testify as an expert in a malpractice case it is necessary for him to practice or live in the same community as the defendant, but if the witness is qualified to testify as to the practice in the same or similar communities he is qualified to give an expert opinion As this court views it, a physician may practice his profession in some one of the larger cities of the state and yet be sufficiently familiar and acquainted with the practice of the profession in the villages to qualify him to testify If the rule went so far as to require that a physician before being permitted to testify must practice in similar communities the complaining party in an action for malpractice might be absolutely helpless Of course the court understands that the physician practicing in a village and in small communities does not have the opportunities and resources to give the same treatment and diagnosis as what may be called the city physician The village physician must observe his patient by candle and lamp light, he does not have the advantage of the roentgen ray and other instrumentalities that are afforded in the great cities with sanatoriums; and of course the same treatment and degree of care would not be applied to a physician practicing in such a community as to one practicing in a city

The family physician is one of the most confidential persons the public has to deal with His responsibility is that of one of the greatest of professions When we are sick or injured, we place our life in his hands, and his advice and treatment may mean life or death It is quite natural that he should be required to exercise that degree of skill, learning and care which are ordinarily possessed and exercised by other such members of his profession in good standing practicing in similar communities and under like or similar circumstances He is not chargeable with negligence or failure to use his best skill and ability, but only that care and skill exercised generally by physicians in the same or similar communities The physician is not an insurer and does not warrant a cure, but he impliedly contracts that he possesses, and he is required to exercise, that degree of skill and care which physicians practicing in similar locations ordinarily possess He does not impliedly warrant a cure, and can be held as a guarantor only by virtue of an express agreement

The testimony showed that the defendant was called after an accident to attend the plaintiff, that the only thing he prescribed was "mentholatum and let nature take its course." He assured the plaintiff that there were no broken bones, and when the plaintiff paid $50 for his services, admitted that the jaw was broken. While the defendant was not bound to diagnose carefully, or know, that which could not be seen, for many of our ailments are hidden, yet the fact that he did not advise a roentgenogram, did not discover the broken jawbone, and was guilty of other failures as detailed by the witness was sufficient for the jury to conclude that he was negligent. There is no profession that has advanced further than the medical. Too much cannot be said of the wonderful achievement of medical science. The advance in the treatment and cure of ailments seems also miraculous. It is no wonder, then, the confidence and faith of a people in the physician, and it is but reasonable that they should receive that treatment afforded in the same or like communities.

This court does not understand that the law of Texas recognizes or makes any distinction between physicians admitted and licensed to practice the profession in Texas, as a test of qualification to testify as experts.

But the trial court's omission from its charge on proximate cause of the doctrine "that foreseeableness or anticipating of injury is a necessary element of proximate cause" was such a fatal omission as required a reversal of this cause, which was therefore reversed and remanded. In *T. & P. R. Co.* v. *Bingham*, 90 Texas 223, 38 S. W. 162, the Supreme Court of Texas quoted the following as a correct statement of the doctrine:

> In order to warrant a finding that negligence or an act not amounting to wanton wrong is the proximate cause of an injury, it must appear that the injury was the natural and probable consequence of the negligence or wrongful act, and that it ought to have been foreseen in the light of the attending circumstances.

Truth-Telling Serum Claptrap

(State v. Hudson (Mo.), 289 S. W. R. 920)

The Supreme Court of Missouri, division 2, in affirming a conviction of the defendant, a negro, of rape on an elderly white woman, says that it was sought to introduce in evidence the deposition of a "doctor" residing elsewhere, who testified to the effect that he had administered to the defendant what he termed a "truth-telling serum," and that while under its influence the defendant had denied his guilt. Testimony of this character—barring the sufficient fact that it cannot be otherwise classified than as a self-serving declaration—is, in the present state of human knowledge, unworthy of serious consideration. This court was not told from what well this serum was drawn or in what alembic its alleged truth-compelling powers were distilled. Its origin was as nebulous as its effect was uncertain. A belief in its potency, if it has any existence, is confined to the modern Cagliostros, who still, as Balsamo did of old, cozen the credulous for a quid pro quo, by inducing them to believe in the magic powers of philters, potions, and cures by faith. The trial court therefore, whether it assigned a reason for its action or not, ruled correctly in excluding this claptrap from the consideration of the jury. Cogent reasons based on numerous rulings bear ample testimony to support the wisdom of the court's ruling.

Right to Call Investigating Physician as Witness

(Osborn v. City of Seattle (Wash.), 252 Pac. R. 164)

The Supreme Court of Washington says that three actions which arose out of a collision between an automobile and a street car owned and operated by the defendant were consolidated for trial. The defendant through its claim department caused a physician to examine the injured plaintiffs and make a report thereof. This examination was made with the consent of the persons examined. On the trial the plaintiffs called the physician for the purpose of having him testify as to the examinations he had made. The defendant contended that these examinations were a part of the investigation of the claim and of the preparation for the trial of the case, and the information obtained was confidential. But no case was cited, and this court does not know of any authority which would sustain a holding that a person who voluntarily submits to an examination by a physician, even though the examination was made at the instance of the adverse party, may not call that physician as a witness on the trial and interrogate him relative to the examination. This case was entirely different from that of seeking by interrogatories to get possession of the report which the physician may have made to the person employing him. When the plaintiffs voluntarily submitted to the examination, it naturally would be on the implied assumption that they might call the physician as a witness on the trial if they saw fit to do so. To suppress such evidence in many cases would keep out of the trial facts which the court or the jury should know in order that a just determination of the cause might be had. Reason at least supported the right of the plaintiffs to call the physician in the present case and take his testimony relative to the examinations which he made.

Society Proceedings

COMING MEETINGS

Colorado State Medical Society, Glenwood Springs, September 6-8. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.
Idaho State Medical Association, Twin Falls, August 29-31. Dr. J. N. Davis, Kimberly, Secretary.
Oregon State Medical Society, Salem, September 1-3. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.
Washington State Medical Association, Tacoma, August 29-31. Dr. C. H. Thomson, 508 Cobb Building, Seattle, Secretary.

MEDICAL ASSOCIATION OF GEORGIA

Seventy-Eighth Annual Meeting, held at Athens, May 10-13, 1927

The President, Dr. V. O. Harvard, Arabi, in the Chair

The Newer Psychology in Its Practical Application to General Medicine

Dr. W. W. Young, Atlanta: If we conceive of the "mind" as an expression of the entire organism, psychology has a very definite message to the man of medicine. First, it is the pediatrician or the family physician who comes in contact with the child and the young mother. It is their advice which is sought in all emergencies. It is within their scope to inculcate right principles of habit formation both in the emotional and in the psychic levels and thus prevent the growth of an organism poorly adapted to meet the stresses of life. It is also within the province of the family physician to eradicate sources of irritation to the autonomic and cortical systems. But, above all, the supreme note of caution should be sounded in the handling of the convalescent. In acute disorders, especially the acute infections, the sympathetic is in a state of constant activity, so that in the period of convalescence an autonomic imbalance with consequent emotional instability is to be expected. This means that emotional situations may have a more pronounced and perhaps disastrous effect on such an individual than ordinary. Incapacity for motor response with proper metabolism of the products of sympathetic physiologic response gives rise to by-products which are toxic. Therefore such a patient should be relieved of all stimuli that might so upset him. Odors, noises, apparently insignificant events may be the source of irritation and may be a tremendous factor in retarding recovery. Of course, major emotional stimulation may have a very pronounced result. The surgeon, too, may find sources or difficulty in improperly balanced individuals. The approach to a major operation should be fraught with as little emotional atmosphere as possible, if the best results are to be obtained. The convalescence should be guarded as carefully as in the case of an acute infection. Any individual who is sick has a fundamentally abnormal adaptive system and hence must have environmental factors controlled. The biologic conception shows us that the "mind" is not some mystical entity which may be dissected and controlled separate from the physical but is indivisible from the organic make-up of the individual: a dynamic expression of the organism's contacts. From this conception every man in the practice of medicine may draw lessons for his guidance in handling his every-day clientele.

Dried Yeast Therapy in Certain Psychoses

Dr. H. D. Allen, Milledgeville: Certain psychoses show marked improvement with increased body weight or improved nutrition, especially the toxic exhaustion types, whether from endogenous or from exogenous toxic causes. Skin eruptions characteristic of pellagra were apparently healed in three cases concomitant to an improvement in nutrition as recognized by prompt increase in body weight. Improvement in the mental state in these three cases was also noted. The improvement in nutrition in the ten cases reported here was very prompt and coincident to the addition of dried yeast (brewers') to the diet of these patients. The value of dried yeast as an addition to the food mixture for nasal tube feeding is suggested. Three cases of pellagra are presented as additional confirmation of the claims of a specific value of dried yeast in this disease.

Popular and Professional Misconceptions Regarding Malaria

Dr. M. A. Fort, Atlanta: Numerous people have told me about catching malaria from eating fish caught in stagnant ponds, chewing sugar cane, drinking bad water, eating rotten ended watermelons, green scum or drying up of ponds, night air, flies, etc. Some prominent physicians have assured me that mosquitoes raised in the vines about their porches cause it. I was asked to make an agricultural college quit raising cow peas because they bred mosquitoes. I have heard physicians advise their patients to put down deep wells, as the water from shallow wells produced malaria. Malaria is not caused by bad water, air or food. Nothing causes malaria but an animal being, having as definite a mode of existence as a boll weevil. This parasite is put in by a mosquito and by nothing else. It lives in only two places in the world: in the human blood and in the mosquito. It dies immediately if placed in water, so it cannot enter in the drinking water. It cannot live in any food, so it cannot be eaten. It cannot live in air, so it cannot be breathed in. One can get it only when an infected mosquito inserts her bill and spits. The only mosquito that can carry this parasite is the anophelene, and the only variety of anophelene to be feared in Georgia is *Anopheles quadrimaculatus.* The Quads develop only in ponds and not in running streams, tin cans, barrels, tubs, septic tanks, wells or other holes dug in the earth, as the borrow pits made in road building. The clean-up campaigns for removing cans and trash are good for comfort, but they have no influence in preventing malaria. The Quad prefers water in a limestone country, and the limestone areas and the malaria areas of the state are the same. A mosquito must be over 10 days old before she can transmit malaria. This is the basis of LePrince's excellent method of preventing malaria by destroying all the mosquitoes in the house daily. Malaria is not transmitted in the winter in Georgia, but the parasite lives in the blood of uncured persons all winter. If fever appears in a house in which Quad mosquitoes can be found hiding in the dark places in the daytime, or if the larvae of the Quad mosquito can be found in nearby ponds, it is strong presumptive evidence of malaria. If, in addition, there is a history of other cases of malaria and the presence of an enlarged spleen, the diagnosis is wellnigh absolute. When a stained blood smear is examined and the characteristic parasites are found we have one of the most satisfactory and absolute diagnoses known to medicine. If we depend on the microscope alone we shall miss malaria more than 90 per cent of the time.

Reducing Obstetric Mortality

Dr. Lewis H. Wright, Augusta: There are three main factors concerning the successful handling of an obstetric case: (1) faithful, thoughtful, intelligent prenatal care; (2) proper management during labor, and (3) careful postnatal care and follow-up. Not one of these factors may be neglected.

Banana Diet in the Treatment of Chronic Intestinal Indigestion in Children

Dr. Joseph Yampolsky, Atlanta: Bananas, when ripe, are very digestible. They were used in conjunction with protein milk and a regular course of intestinal elimination in three cases of severe celiac disease. The patients gained in weight and after two years of observation are apparently well.

Starvation Diet Versus Feeding in the Treatment of Summer Diarrheas

Dr. W. A. Mulherin, Augusta: The modern idea in the treatment of ileocolitis is the same in principle as the treatment of typhoid—support the baby's vital force with food of sufficient strength to be of some real value, until the infection has run its course. Treat symptoms as they arise, giving medicine only if there is a direct indication for it. Give plenty of water to drink; if necessary, force it, or give it artificially, in order to keep the tissues and organs of the body functioning in a normal manner, thereby preventing metabolic disturbances that frequently claim the life of the little patient.

Pigment Metabolism in the New-Born

Dr. M. Hines Roberts, Atlanta: Serum and spinal fluid of new-born infants contain protein-bound bilirubin, as shown by the indirect van den Bergh reaction, and hence the bilirubinemia is of the hemolytic type. The normal pigment concentration ratio of serum to spinal fluid is greater than 100:1. A serospinal fluid pigment ratio that is less than 50:1 indicates the presence of blood in the spinal fluid at some time. The threshold of clinical jaundice in the new-born is higher than that for the adult, apparently well above an icterus index of 40.

Zinc Stearate Poisoning

Dr. L. H. Goldsmith, Atlanta: Zinc stearate dusting powder has been used extensively as a substitute for talcum powder, although it has no advantage therapeutically and is more dangerous. The inhalation by infants has resulted in twenty-eight deaths (21 per cent) in 131 cases reported. One 3 months old infant died within one hour. Its use should be discouraged and mothers should be warned of its dangers by the medical profession.

Diagnosis of Syphilitic Bone Lesions

Dr. James J. Clark, Atlanta: The ease and accessibility of roentgen-ray examination make possible a safe and simple method of early, and often positive, discovery of this infection. This is particularly true in children, in whom frequently the factor of a possible hereditary infection is lost sight of and considerable time lost and expense incurred while attempting to treat the child for some other infection, when a careful survey of the osseous system will readily give a correct diagnosis and permit of proper treatment. In any case of bone infection of chronic nature, the addition of antisyphilitic treatment to other therapeutic and dietary measures is certainly to be recommended. The physician will many times be surprised and delighted at the prompt response the patient will show to this form of therapy.

Treatment of Superficial Malignant Lesions by Combined Methods

Dr. J. W. Landham, Atlanta: The best results will not be obtained in the treatment of malignant growths without resorting to a combination of methods. Frequently it is necessary to use all the available methods in order to accomplish a cure. All the lesions of the larynx, lip, tonsil, mouth, penis and pigmented lesions in my series have been treated by a combination of diathermy and irradiation. Mortality statistics of this series of malignancies were: face, 6⅔ per cent; lip, 16⅔ per cent; nose, 3$\frac{4}{7}$ per cent; pharynx, 66⅔ per cent; antrum, 33⅓ per cent; tongue, 66⅔ per cent; penis, 50 per cent; and mouth, 30 per cent. Good cosmetic results were obtained in all the other cases in this series. Much remains to be accomplished in the education of the public in reference to malignancy. This should be pushed relentlessly. Prophylactic measures should be in the minds of physicians at all times, and the patient should be advised accordingly. Biopsies are condemned. It is safer to overtreat superficial malignant tumors than to run the risk of undertreating them in an effort to obtain good cosmetic results.

The Necessity of Pyelograms in Urologic Diagnosis

Dr. Wallace L. Bazemore, Macon: The use of ordinary antiseptics without an attempt at localization of urinary infections is to be condemned. Urography is not without its dangers, and its routine employment is not advised. It should be used only when the clinical diagnosis cannot be made without it. Urography is contraindicated when the patient is of advanced age or greatly emaciated, in cases of advanced bilateral renal disease, and when it is apparent that surgical treatment will not be of benefit.

Injection of Uterus and Fallopian Tubes with Iodized Oil as Aid in Diagnosis

Drs. E. H. Greene and Robert C. Pendergrass, Atlanta: We have used this procedure in about fifty cases and in none have we seen any evidence of reaction or untoward effect, either immediately or subsequently. There is a suggestion of some therapeutic value to the injection, as three or four of the patients with chronic salpingitis have reported a noticeable improvement; i. e., feeling better, marked decrease of the leukorrheal discharge, and gain in weight.

Etiology of Urinary Infections

Dr. Earl H. Floyd, Atlanta: The determining factors in the etiology of these infections are: (1) the type of infection; (2) the manner in which it invades the urinary tract; (3) the sources, and (4) the condition of the tract that predisposed it to infection. A systemic outline should be followed in all cases. An extensive examination is not always necessary, but in obscure conditions one should not hesitate to use every available means in investigating the urologic tract from the external urethral orifice to the cortex of the kidney. A few pus cells, even in very small microscopic amount, are of significance, and a careful examination should be made to determine their source. The likely association between urinary infections and infections elsewhere in the body should always be borne in mind. An endeavor should be made to determine whether there is some mechanical obstruction present, for this is the most common etiologic factor in upper urinary tract infection.

Wassermann Test

Drs. Paul Eaton and F. L. Damren, Augusta: There is much room for increasing the usefulness of the Wassermann test by the wider dissemination of information concerning its true import. The 2,275 tests we analyze comprise a little more than half the work of our laboratory so far this year. In sixty-seven of these cases the blood serum was anticomplementary. We were able to check fifty-three of these cases with the Kahn test and found that it was positive in forty and negative in thirteen of them. The fourteen which we did not test amount to only 0.5 per cent. It must be constantly borne in mind that the test, while enormously valuable, is not infallible and that the responsibility for diagnosis falls, not on the laboratory, but on the physician. The physician must use the Wassermann test just as he would use a watch or a thermometer, with a full appreciation of its weaknesses and shortcomings.

Rat Bite Fever

Dr. R. S. Leadingham, Atlanta: Sodoku, or rat bite fever, is a disease transmitted by the bite of a rat carrying *Spirochaeta morsus-muris.* I have isolated the organism by animal inoculation from two of three cases observed in Georgia. Seventy-three rats caught in Atlanta and vicinity and examined were found not to harbor the parasite in their peripheral blood streams. Arsphenamine is a specific and rarely more than two small doses have been necessary to effect a cure.

Rôle of Plasma Chlorides in Lobar Pneumonia

Dr. John W. Daniel, Savannah: These are three conditions — saline contents, hydrogen ion concentration, and temperature — which are capable of altering the dissociation curve of hemoglobin. In pneumonia the physician must combat all three. The temperature may be controlled with baths, exposure to cold air, etc., but not with drugs. The low plasma chlorides and high hydrogen ion concentration may often be controlled by intramuscular injections of a normal or hypertonic salt solution. In a patient of average weight, whose heart is functioning fairly well and the volume of urine good, injections of 500 cc. of physiologic sodium chloride solution should be given every three hours. The quantity should be based on the amount of plasma chlorides. If the chlorides are very low, 200 or 300 cc. of hypertonic solution should be injected every three hours until the plasma chlorides are at least 500 mg. If laboratory facilities are not convenient, the appearance of chlorides in the urine is a fairly good guide for the discontinuance of the injections. For patients who are in coma or unable to retain food and are in need of nourishment and fluid in the tissues, 10 per cent dextrose should be added to the saline injections. The dextrose furnishes calories as well as glycogen, which is the best of all heart stimulants. The condition of patients with dilatation of the right ventricle may be improved by drawing 200 or 300 cc. of blood from a vein. These are the cases in which the hypertonic solutions should be used so as to avoid injecting a large volume of fluid. We have treated eight cases of lobar pneumonia as outlined. The treatment in each case was based on the laboratory reports. These patients recovered. We do not claim that the injection of salt solution is a panacea for pneumonia. The claim is made that when the chemical equation reaches the point of equilibrium the sodium is no longer available for buffering the hydrogen ion of carbonic acid. The injection of sodium chloride will furnish the base, sodium ion, and prevent the development of an acidosis which is usually fatal.

Otomycosis

Dr. Arthur G. Fort, Atlanta: Attention was called particularly to this condition as it affected the external auditory canal and drum membrane of a large number of people presenting themselves for treatment in south Florida, particularly during the six weeks following the hurricane ot Sept. 17 and 18, 1926. It was not unusual to see three or four new cases every day. The most common forms of fungi with which we came in contact were of the species *Aspergillus niger* and *fumigatus.* These were identified by the detritus in the ears and by the growths and smears confirmed by the laboratory study. The development of the spores in the external auditory canal is rapid, as there is warmth and moisture and they are protected from every mechanical interference. The growth is augmented or stimulated quite often by the instillation of oil, so often used to soothe discomfort in the ears. The diagnosis is easy if one is looking for fungus invasion, and it is to be differentiated from seborrheic dermatitis and eczema. Microscopic examination will definitely settle the matter. The prognosis is always favorable, even though the drum membrane has been penetrated, provided one has an appropriate treatment and seeks a dry climate. The ear should be thoroughly irrigated with warm water, thereby removing a large part of the growth and detritus. Hydrogen peroxide should be instilled and allowed to remain in the ear for a few moments; the ear should be irrigated with warm water; 10 per cent cocaine in 1:1,000 solution of epinephrine hydrochloride should be instilled and allowed to remain ten minutes; the ear should be dried and about ten drops of pure alcohol instilled. This should be repeated every day for a period of at least one week and then at intervals of one week for a month or more. Under this treatment our patients were relieved, and when they persisted in treatment relapses were rare. After the first two or three treatments all medications except alcohol can be omitted.

So-Called Irreducible Minimum in Surgical Mortality

Dr. C. W. Roberts, Atlanta: There must be a quickening of surgical conscience. Only a deep-rooted acceptance of responsibility for outcome in operative procedure can furnish the urge that is required to stand by threatening failure constantly with the optimism of hope and with maximum efficiency. There is no mortality rate in a given surgical condition that should be accepted as standard. Team work and cautiously adapted variations of procedure lower mortality rates. There must be an occasional stock taking among surgeons in order to see where emphasis is being placed and to find the motive that activates them. In the "poor surgical risk" group timely preparation, well chosen anesthesia, and proper and intelligent postoperative care overseen by experienced men who anticipate and properly meet threatening complications constitute the most fruitful measures of lowering prevailing death rate percentages. Cells die without water, and sugar furnishes the body's necessary fuel. They should be used. That personal or personally supervised care of patients yields a lower death rate may be attested by comparing mortality tables compiled by small clinics where authority is centralized and procedure standardized to those of large hospitals where there is a tendency to lose sight of the individual in a mad rush to serve large numbers. End-results should be more and more the yard stick by which a surgeon's work is measured.

Injection of Internal Hemorrhoids

Dr. M. C. Pruitt, Atlanta: The solution I use in the great majority of cases is phenol (carbolic acid), 1 drachm (4 cc.); glycerin, 3 drachms (12 cc.); water, 4 drachms (15 cc.), or a 12.5 per cent solution. The object of the injection treatment is to produce, by irritation, sufficient fibrosis to obliterate the network of dilated blood vessels forming the hemorrhoids, causing them to shrink and not sufficient to cause sloughing of tissue. The relief of symptoms after the first treatment by the injection method is so complete that it is frequently hard to get the patient to believe that he needs any further treatment. This increases the percentage of recurrences. It is absolutely essential to have sufficient knowledge of the anatomy of the part and to make a physical examination with such a degree of care to enable differentiation between external and internal hemorrhoids, as only the internal type without complications is suitable for this method. The injection method is not without fault, but must be recognized as one of the standard forms of treating internal hemorrhoids.

Periodic Examination of Apparently Healthy Persons

Dr. Edgar A. Hines, Seneca, S. C.: To promote the better equipment of South Carolina doctors not only to undertake examinations of the apparently healthy citizen but to give him the most scientific care when he is sick, the board of trustees of the State Medical College, April 28, 1927, on request of the state medical association, decided to open the doors of the college twice a year for intensive intramural postgraduate courses free of charge. In addition to this service, the entire faculty will also be available for twelve months out of the year to go out to the county and district medical societies and give brief intensive courses to the busy practitioners who cannot leave their homes. These professors will be prepared to instruct physicians in the latest methods of conducting health examinations, in addition to other courses as desired. The basic idea of the leaders of the American profession is that these health examinations shall be made by the private practitioners rather than in a wholesale manner by health clinics of the commercial type. The practitioner is competent, though in many instances it may be necessary for him to catch a little different point of view and make some additional preparation for properly conducting such examinations. This is the crux of the problem for organized medicine. It will be successfuly solved but will take time. To activate 150,000 physicians and 118,000,000 people is a colossal task. Some results of periodic health examinations will be of interest. Among 17,000 adult white males recently examined, about 13 per cent were found to be overweight by more than 20 per cent above the usual standards for height and age. "Heavy dentistry" with suspected focal infection was found in 42 per cent of the cases; enlarged, septic or buried tonsils were discovered in more than a fourth of these adults; high blood pressure was found in about 7 per cent of the patients. Young persons, advised in hygiene, have a good opportunity for eradicating all adverse finding and by doing so add not only to their efficiency but to their longevity prospect. Thus, overweight was observed in only [illegible] per cent of the persons examined [illegible] the age of 25, [illegible] the age of 55 it was observed [illegible] almost 20 per [illegible] ns coming to the physician. [illegible] blood [illegible] rcentage of less than 5 in [illegible] of 10 in those between 45 and 54, and more than 20 in those beyond 55 years of age. The young people who were apprised of their condition by the physician have better longevity prospects now when they can safeguard themselves than they could have had if no examination or advice had been given them.

D'Arsonval Current in the Removal of Tonsils

Dr. Julian Buff, Atlanta: It occurred to me some months ago that by making a veder loop with a detachable metal tip, the shaft part of the instrument being insulated, the tonsil could be engaged more easily than with a tip made of hard rubber, or a metal tip covered with rubber. This instrument has proved very satisfactory. The method I use now has proved to be the most satisfactory way of removing tonsils, whether it is used with local or general anesthesia. The negative wire of a high frequency current machine is attached to the Beck instrument and then the tonsil is caught with a pair of insulated forceps except the tip, which serves as the positive pole, and then the current is turned on with a foot switch and the wire in the Beck instrument pulled taut until the tonsil is removed, which requires about three or four seconds, using 200 or 300 miliamperes of current. Operators who are beginners should not try this method; in fact, no one who is not adapted to the use of the Beck instrument and uses it with marked rapidity. This method has been used in thousands of cases and no explosion has been reported, and if one should happen it will be due to the carelessness of the operator. Advantages over the old method are: absence of blood, sealing of the lymphatics, less pain following the operation, less danger of secondary hemorrhage, faster healing, less scar tissue, less nausea when ether is used, and less fatigue to the operator.

Supracondyloid Fracture of the Elbow

Dr. Grady N. Coker, Canton: An accurately flexed, accurately reduced supracondyloid fracture will hold itself in place provided flexion is maintained. A simple sling is all that is needed. We have treated twenty-five cases by this method; twenty-one were dismissed cured and four with fair results. Our percentage of cures was 84. Early passive motion was a big factor in our results.

Subdiaphragmatic Abscess: Suggestions for Prevention

Dr. L. W. Grove, Atlanta: I feel that a great deal may be done toward the prevention of subdiaphragmatic abscess. This is accomplished by a more detailed supervision of the postoperative management, of acute suppurative conditions, of the right abdomen. The condition usually arises from some suppurative process in this location, and if certain principles of drainage were more strictly adhered to the condition would occur less frequently. The second precaution to be taken in suppurative conditions of the retrocecal space is supervision of postoperative posture. If these patients are allowed to remain prone in bed for a long time there is a tendency for the infection to gravitate upward toward the right kidney pouch, which favors a subsequent subdiaphragmatic infection. These patients should assume the Fowler position early. This not only encourages increased drainage but also causes relaxation of the abdominal muscles, which is an added comfort to the patient with this condition. The active treatment of subdiaphragmatic abscess is necessarily surgical, as soon as practical, after the diagnosis is made. The mortality rate is directly proportionate to the duration of the abscess. There is an increase of 15 per cent in cases in which operation is delayed longer than seven or eight weeks.

The Phosphatic Index

Dr. G. Y. Moore, Cuthbert: In the proper diagnosis of a case the medical profession is coming more and more to recognize the importance of the phosphatic index, which gives an estimate of the nerve energy as controlled by nutrition of the system. All the trillion cells, muscle, bone and fluid that make up the human body are fed by the flow of blood, constantly propelled by the nervous system. The medical profession cannot find a better field for its future researches than an exhaustive study of the position of the blood and nerve cells in the building and upkeep of the body in the life of man.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

American Journal of Diseases of Children, Chicago

33: 705-866 (May) 1927

- *Incidence of Dysentery and Diarrhea Among White Infants Under Two Years of Age. L. Wilkins, Baltimore.—p. 705.
- *Unsuccessful Attempt to Protect Infants Against Dysentery by Oral Administration of Vaccine. L. Wilkins, Baltimore.—p. 711.
- *Agglutination Reactions in Rabbits Following Oral Vaccination with B. Dysenteriae. M. N. Fulton and G. P. Berry, Baltimore.—p. 714.
- *Reversal of Normal Concentration of Urine in Enuresis. A. Friedell, Minneapolis.—p. 717.
- *Respiratory Metabolism in Infancy and in Childhood: VI. Specific Dynamic Action of Food. S. Z. Levine, J. R. Wilson, F. Berliner and H. Rivkin, New York.—p. 722.
- *Dressing for Breasts of Mothers of Newly Born. L. R. De Buys, New Orleans.—p. 732.
- *Pyopneumothorax in Infants. F. E. Johnson, New York.—p. 740.
- *Keratodermia Palmaris et Plantaris Congenitalis. H. C. Olmsted, Seattle.—p. 757.
- *Nonoperative Treatment of Intussusception. G. M. Retan, Syracuse, N. Y.—p. 765.
- Physical Defects in Thousand Children. W. R. P. Emerson, Boston.—p. 771.
- *Streptococcic Meningitis of Otitic Origin. E. J. Huenekens and A. V. Stoesser, Minneapolis.—p. 779.
- *Anthocyaninuria. M. W. Poole, Detroit.—p. 784.
- Von Jaksch's Anemia. T. B. Cooley, Detroit.—p. 786.

Incidence of Dysentery and Diarrhea Among Infants.—In a group of 628 white infants under 2 years of age, representative of the poorer middle class, from 7.5 to 13 per cent developed dysentery during the summer of 1925, and 27 per cent developed simple diarrhea. Among those not exclusively breast fed the incidence of dysentery was from 10 to 17 per cent and of diarrhea 33 per cent. Of all the cases of gastro-intestinal disturbance encountered by Wilkins, from 19 to 33 per cent were caused by dysentery. Dysentery is of much longer duration than "simple diarrhea," lasting more than two weeks in 65 per cent of the cases. When breast-fed infants are excluded, there is approximately the same frequency of gastro-intestinal disturbances during the first and second summer of life.

Experimental Serum Therapy of Dysentery.—A vaccine containing two billions each of five strains of Flexner dysentery bacilli was given by Wilkins by mouth on three successive days to 107 infants under 2 years of age. The frequency of dysentery among the infants who received the vaccine was identical with that among a control group of 369. The vaccine did not protect against dysentery.

Agglutination Reactions of Dysentery Bacillus.—Fulton and Berry assert that agglutinating properties can be produced in the serum of rabbits by the oral administration of killed dysentery bacilli.

Treatment of Enuresis.—In treating thirty-nine children having enuresis, Friedell found that the psychic treatment in the form of a hypodermic of sterile water proved successful in 87 per cent of the cases. In patients whose urine showed a persistent reversal of concentration, when the specific gravity of the day specimen was greater than that of the night, the treatment proved a failure. In borderline cases in which the specific gravity of the urine during the day was equal to or slightly greater than that of the night urine, a cure usually was obtained but with more difficulty than in patients with a normal concentration.

Dynamic Action of Food on Metabolism.—The effect of food on the metabolism of two normal infants, aged 3 and 4 months, was studied by Levine et al. in thirteen carefully controlled calorimetric observations of from two to six hours' duration. Fat, milk and protein meals raised the metabolism of one infant 8, 4 and 15 per cent above the basal level. The other infant reacted to the fat, milk, dextrose and protein meals by respective increases of 1, 9, 8 and 17 per cent above the basal level in the three hours after ingestion.

Dressing for Breasts of Nursing Mothers.—DeBuys applies five strips of adhesive plaster to the chest in such a way that the breasts are held perpendicular to the chest wall and pointing directly in front of the mother. They are supported in this position with a minimum of pressure being made against the chest wall; that is, the breast is not being pressed down. There is no compression of the mammary glands, no obstructions to any of the ducts and no twisting of the nipples; hence the milk may be secreted without restriction and may be allowed to flow freely without obstruction, and the natural leakage of the excess milk may take place in a normal way. One strap lying above the breast, one below, two straps crosswise and one between the breasts comprise the dressing.

Pyopneumothorax in Infants.—Johnson analyzed ten cases. All the ten patients probably had pleuropneumonia from the onset, and the pyopneumothorax was caused by a ruptured subpleural abscess. The similarity of the conditions found in three necropsies was striking. All three cases showed rupture of the lung in the upper lobe, a thick pleural exudate with interlobar adhesions, collapsed lung with one or more abscesses and bronchopneumonia. These are the youngest infants reported with pyopneumothorax complicating pneumonia, two being 1 month old.

Palmar and Plantar Keratodermia.—A case of keratodermia palmaris et plantaris of the congenital hereditary type is described by Olmsted. The previous occurrence of associated similar lesions in the circumoral and circumanal regions has not been reported.

Nonoperative Treatment of Intussusception.—Retan has been successful in using a method of injection of barium under the fluoroscope, with manual pressure for the relief of intussusception. He believes that in properly selected cases this method can be used with comparative safety.

Streptococcus Meningitis of Otitic Origin.—A case of bilateral otitis media and mastoiditis is reported by Huenekens and Stoesser with meningitis as a complication. This meningitis yielded a spinal fluid positive for pneumococcus by smear and for streptococcus by smear and culture. The streptococcus was of the hemolytic type. The path of infection from the middle ear and mastoid to the meninges was not determined.

Anthocyaninuria.—Attention is called by Poole to a condition which apparently occurs rarely, that is, pigmentation of the urine following the ingestion of red beets (beta vulgaris), and which might readily be mistaken for other conditions in which red pigment appears in the urine.

American Journal of Ophthalmology, Chicago

10: 319-398 (May) 1927

- Nordenson Camera. A. J. Bedell, Albany, N. Y.—p. 319.
- Results with Intracisternal Injections in Syphilitic Optic Atrophy. S. R. Gifford and J. J. Kegan, Omaha.—p. 323.
- Druses Apart from Nervehead. H. W. Scarlett, Philadelphia.—p 330.
- *Central Choroiditis Due to Toxemias of Pregnancy.* M. E. Mesirow, Chicago—p. 332.
- Epiphora of Unusual Character. W. B. Lancaster, Boston —p. 336
- Cataract Extraction After Iridotasis for Glaucoma. M. Goldenburg, Chicago—p. 338.
- Congenital Anophthalmos in Family of Albino Rats. A. M. Yudkin, New Haven, Conn.—p. 341.
- Wilmer Institute of Johns Hopkins Medical School and Hospital. W. H Wilmer, Baltimore.—p. 346.
- Diseases of Eyelids: Suggestions of Dermatologist. W. J. Macdonald, Boston.—p. 349.
- Treatment of Obstruction of Central Retinal Artery. S. J. Beach, Portland, Maine.—p. 352.
- Thrush of Conjunctiva. A. H. Norton, Seoul, Korea.—p. 357.
- Vossius Ring Cataract and Rupture of Choroid. W. F. Hoffman. Seattle.—p. 357.
- Cyst of Anterior Chamber. E. L. Goar, Houston, Texas.—p. 358.
- Toxic Amblyopia from Drinking. G. L. Strader, Cheyenne, Wyo. —p. 359.
- Furrow Keratitis or Marginal Dystrophy of Cornea. L. L. McCoy, Seattle.—p. 359.

American Journal of Physiology, Baltimore

80: 237-484 (April 1) 1927

Reciprocal Reaction in Cat as Possible Local Mechanism: II. Reciprocal Reaction of Flexor Carpi Ulnaris and Extensor Carpi Ulnaris. J. B. Stein and J. Tulgan, New York.—p. 237.
Influence of Insulin on Liver and Muscle Glycogen in Rat Under Varying Nutritional Conditions. A. D. Barbour, I. L. Chaikoff, J. J. R. Macleod and M. D. Orr, Toronto.—p. 243.
*Blood Calcium Deficiency in Experimental Obstructive Jaundice. W. C. Buchbinder and R. Kern, Chicago.—p. 273.
Motility of Intestinal Tract in Experimental Beriberi and Scurvy. B. A. Plummer, Chicago.—p. 278.
Alimentary Tract in Experimental Scurvy. E. A. Smith, Chicago.—p. 288.
Effects of Lowered Body Temperature and of Insulin on Respiratory Quotients of Dogs. W. H. Finney, S. Dworkin and G. J. Cassidy, Montreal.—p. 301.
Rôle of Cerebral Cortex in Control of Postural Reflex. W. T. King, Baltimore.—p. 311.
Gas Exchange of Nerve During Stimulation. W. O. Fenn, Woods Hole, Mass.—p. 327.
Human Energy Metabolism: I. Simple Bicycle Ergometer. E. L. Sevringhaus, Madison, Wis.—p. 347.
Id.: II. Mechanical Efficiency of Body on Carbohydrate, Fat and Mixed Diets. M. S. Reynolds, E. L. Sevringhaus and M. E. Stark, Madison, Wis.—p. 355.
Electric Responses to Acoustic Stimuli in Decerebrate Animal. A. Forbes, R. H. Miller and J. O'Connor, Boston.—p. 363.
Effect of Epinephrine on Temperature of Skeletal Muscle Before and After Ligation of Hepatic Artery and Portal Vein. M. W. Caskey.—p. 381.
*Blood Regeneration in Severe Anemia: VIII. Influence of Bone Marrow, Spleen, Brain and Pancreas Feeding: Organic Iron in Diet. G. H. Whipple and F. S. Robscheit-Robbins, Rochester, N. Y.—p. 391.
*Id.: IX. Influence of Fresh and Dried Fruits. F. S. Robscheit-Robbins and G. H. Whipple, Rochester, N. Y.—p. 400.
*Blood Calcium as Affected by Insulin. J. C. Brougher, Portland, Ore.—p. 411.
*Regulation of Respiration: VII. Tissue and Blood Acidity: Coordination of Dual Function of Hemoglobin During Suspended Ventilation. A. B. Hertzman and R. Gesell, Ann Arbor, Mich.—p. 416.
Transitional Decrement of Intensity of Nerve Conduction. M. Cattell and D. J. Edwards, New York.—p. 427.
Effect of Injected Glucose on Tolerance. E. M. Jordan, Rochester, Minn.—p. 441.
Effect of Amount of Protein in Previous Diet on Nitrogen Excretion of Albino Rat During Fast. F. A. Hitchcock and A. L. Rawlins, Columbus, Ohio.—p. 450.
*Experimental Study of Obstructive Jaundice: Initial Bilirubinemia. J. L. Bollman, C. Sheard and F. C. Mann, Rochester, Minn.—p. 461.
Dynamics of Ventricular Contraction in Heart-Lung Preparation. L. N. Katz, Cleveland.—p. 470.

Blood Calcium Deficiency in Obstructive Jaundice.—In three cases of human jaundice, one of catarrhal jaundice, one of obstructive jaundice due to carcinoma of the head of the pancreas, and one of hemolytic icterus, seen by Buchbinder and Kern there were found low serum calcium values, which approached the normal with decrease of the jaundice. In puppies subjected to common duct ligation there occurred a progressive decrease in blood serum calcium, reaching approximately half the normal value.

Blood Regeneration in Severe Anemia.—Whipple and Robscheit-Robbins assert that beef marrow powder or cooked beef spleen are not especially potent food factors to promote hemoglobin regeneration in severe anemia. Bone marrow powder, from 30 to 40 Gm. daily, will cause an increase of from 20 to 25 Gm. of hemoglobin per two-week period over the control level. Brain tissue is a favorable diet factor for hemoglobin regeneration in severe anemia. A diet intake of from 200 to 300 Gm. cooked brains a day will cause an average increase in hemoglobin production of from 20 to 25 Gm. per two-week period above the control level. Pancreas is a favorable diet factor, and on an intake of from 200 to 300 Gm., there results an average increase in hemoglobin of 35 Gm. per two-week period over control periods. These reactions do not compare with the enormous increases in hemoglobin production during heavy feeding with liver or kidney.

Value of Fruit Diet in Blood Regeneration.—Experiments made by Robscheit-Robbins and Whipple have shown that apricots and peaches contain diet factors which are very favorable for hemoglobin regeneration during severe anemia. The addition of 200 Gm. of this cooked fruit to the daily standard diet may cause an average output of from 40 to 45 Gm. of hemoglobin per two-week period, over and above the standard control periods. For hemoglobin regeneration in simple anemia, these fruits are far superior to all dairy products. Dried fruits are as efficient as fresh fruits in the promotion of hemoglobin regeneration in anemia. Raisins and fresh grapes are somewhat less favorable than peaches and apricots for hemoglobin production in simple anemia. Apples, fresh and dried, show considerable variation but average about the same as grapes and raisins. Prunes come in the class with apricots and peaches. Raspberries (black, fresh) are practically inert as regards hemoglobin regeneration in anemia.

Effect of Insulin on Blood Calcium.—Brougher states that in both normal and parathyroidectomized dogs, the blood calcium is increased for a period of two and one-half hours following the administration of insulin.

Regulation of Respiration; Blood and Tissue Acidity.—Experiments made by Hertzman and Gesell support the view of the lack of correspondence between changes in acidity in the blood and in the tissues. The results agree with the theory that the acidity of the respiratory center is important in the control of pulmonary ventilation. They are not in disagreement with a direct effect of oxygen on pulmonary ventilation by changes in the state of oxidation of the respiratory center.

Bilirubinemia in Obstructive Jaundice.—Bollman, Sheard and Mann found that the ligation of the common bile duct after extirpation of the gallbladder is followed by an immediate rise in the bilirubin content of the blood, and it continues to increase at a uniform rate for several hours after this operation. Studies of the pressure in the common bile duct in these experiments showed that the maximal pressure was obtained almost immediately, and the progressive and uniform increase in the bilirubin content of the blood followed the application and maintenance of this pressure. If submaximal pressure is maintained in the common bile duct, bile continues to be excreted, but there is retention of bile pigment which produces hyperbilirubinemia. From these and other considerations, it would appear that the increasing intraductal pressure of obstructive jaundice early incapacitates the hepatic cells, so that bile pigment is not absorbed from the blood stream and the liver and biliary ducts do not become saturated with bilirubin.

American Journal of Public Health, Albany, N. Y.

17: 311-432 (April) 1927

*Scarlet Fever Outbreak Due to Infected Food. C. L. Scamman, H. L. Lombard, E. A. Beckler and G. M. Lawson, Boston.—p. 311.
Population Maps. A. F. Gillihan, Sacramento, Calif.—p. 316.
*Examination of Disinfectants. G. F. Reddish, Washington, D. C.—p. 320.
School Child. J. T. Phair, Toronto.—p. 330.
Pathogenic Bacteria in Swimming Pools. W. R. Stokes, Baltimore.—p. 334.
Public Health Engineering in Latin America. E. H. Magoon.—p. 336.
Public Health Engineering Progress in Palestine. L. Cantor, Palestine.—p. 341.
Effects of Silica Dust on Lungs: II. R. R. Sayers, Washington, D. C.—p. 348.
*Health Problems of Modern Mexico. F. L. Hoffman, Newark, N. J.—p. 352.
Effect of Different Temperatures on Bacterial Flora of Milk. M. J. Prucha, Urbana, Ill.—p. 356.

17: 433-547 (May) 1927

Goal Posts and Yardsticks in Health Center Work. M. M. Davis, New York.—p. 433.
Spray Coating Processes. H. F. Smyth, Philadelphia.—p. 440.
Health Department Bulletins. H. N. Bundesen, Chicago.—p. 442.
Community Control of Acute Infections. A. W. Bingham and J. J. Gallagher, New York.—p. 448.
Eliminating Pollution from Great Lakes. A. J. McLaughlin, St. Louis.—p. 454.
Eliminating Pollution from Lake Erie and Niagara River. J. W. Ellms, Cleveland.—p. 457.
Relation of Tunnicliff and Ferry Diplococci to Measles. W. H. Park, A. W. Williams and M. Wilson, New York.—p. 460.
Public Health Engineering in European Countries. G. W. Fuller, New York.—p. 466.
Public Health Aspects of Food Preservation. C. R. Fellers, Amherst, Mass.—p. 470.
Infant Mortality as Shown by Canadian Vital Statistics. E. S. Macphail, Ottawa.—p. 476.
Psychology of Public Health Education. W. W. Peter, Shanghai, China.—p. 485.
Tubercle Bacilli in Raw Milk of Chicago Dairy District. F. O. Tonney, J. L. White and T. F. Danforth, Chicago.—p. 491.

Scarlet Fever Due to Infected Food.—Simultaneous occurrence of three geographically distinct outbreaks of sore throat and scarlet fever, apparently all due to a single contaminated food, are analyzed by Scamman et al. At least 138 of 592 persons attending the banquets at which the food was served developed illnesses. In ninety-eight cases the illness was undoubtedly scarlet fever. In forty the evidence is not sufficient to warrant a positive diagnosis. Evidence is presented to show that the source of infection was probably the lobster meat in a lobster salad. The approximate time of contamination of the lobster meat is evident, but the carrier or missed case responsible for the contamination could not be definitely identified. The occurrence of outbreaks of scarlet fever and sore throat from a common source of infection, with secondary cases of scarlet fever following contact with sore throat patients, show the importance of sore throats in the spread of scarlet fever. These might better be classed as cases of scarlet fever without eruption. Experiments were carried out which indicate that a hemolytic streptococcus may remain alive in lobster salad for a period long enough to infect those who partake of the salad.

Testing Germicidal Efficiency of Disinfectants.—A new method for testing the germicidal efficiency of disinfectants and antiseptics is proposed by Reddish. The test is based on the well known technic of the Rideal-Walker and Hygienic Laboratory methods. The best features of both these tests are retained and the most objectionable ones are eliminated. Instead of using only one test organism, as specified in the Rideal-Walker and Hygienic Laboratory methods, it is recommended that representatives of the most important groups of pathogens be used in a simplified method. Detailed procedures are given for *B. typhosus* and *Staphylococcus aureus*, and tentative methods are outlined for *B. diphtheriae*, *B. tuberculosis*, the pneumococcus bacillus and *Streptococcus hemolyticus*. A standard of resistance to phenol (carbolic acid) for each of these organisms, with the exception of *B. tuberculosis*, is given, and when they are used for testing the germicidal powers of disinfectants and antiseptics, they should show the resistance to phenol here indicated. It is not recommended that the manufacturers of disinfectants and antiseptics give the phenol coefficients of their products against all the pathogens used in this test, but they should be sure that the dilutions specified for their products will kill the pathogenic micro-organisms which it is desired should be killed.

Health Problems of Mexico.—Hoffman is of the opinion that health conditions in Mexico are making progress, and that the time is not far distant when the death rate will fall considerably below what it has been in years past. Malignant diseases are relatively much less common in Mexico than in the United States. Among the Pueblo Indian population, cancer also is extremely rare. Among the Mexican population, the prevailing type of cancer is of the uterus. Cancer of the breast is seldom found. Cancer of the stomach, intestine and rectum, as well as of the skin, is also comparatively rare.

Archives of Dermatology and Syphilology, Chicago

15: 527-646 (May) 1927

Analysis of One Thousand Cases of Congenital Syphilis. C. M. Smith, Boston.—p. 527.
*Bismuth Thioglycollate in Treatment of Syphilis. O. M. Gruhzit, E. Lyons and R. Perkins, Detroit.—p. 550.
*Acne Bacillus. L. W. Ketron, Baltimore.—p. 568.
Case of *Poikiloderma Atrophicans* Vasculare. K. M. Bowman and E. C. Clark, Boston.—p. 583.

Bismuth Thioglycollate in Syphilis.—Gruhzit et al. report that bismuth thioglycollate does not produce any injury; albuminuria is not produced; the blood urea nitrogen is not affected by it, and histologic studies indicated that a dose of 2.6 mg. per kilogram does not cause any changes in the liver, spleen and kidneys. Bismuth thioglycollate is absorbed from the site of injection in less than two hours. From about 20 to 40 per cent of bismuth appears in the urine and feces within seventy-two hours. The greatest part of it is eliminated through the kidneys. The spirocheticidal value increases with the quantity of the drug given. The minimum effective dose is about 1.3 mg., while the optimum spirocheticidal dose is from 2 to 2.5 mg. per kilogram. A limited clinical experience indicates that bismuth thioglycollate produces a somewhat more rapid improvement in lesions than do the insoluble bismuth compounds. It does not cause any lumps or pain at the site of injection when administered in water solution. The patient can be saturated readily without danger of cumulative action. The Wassermann reaction was influenced rapidly.

Acne Bacillus.—A bacillus on the skin, with cultural requirements and distribution similar to the acne bacillus, is described by Ketron. Because of this general similarity it is regarded as a variety of the acne bacillus and is designated acne bacillus B. The usual form is referred to as acne bacillus A. The B variety differs from the A variety principally in its more rapid growth, the absence of zoning in deep shake tubes and the occurrence of certain characteristic involution forms in anaerobic cultivation. Other differences in the appearance of the growth of the two varieties and in the fermentation reactions are described.

Archives of Neurology and Psychiatry, Chicago

17: 571-722 (May) 1927

Gastroduodenal Ulcers and Autonomic Imbalance. H. G. Wolff and E. W. Thomas, New York.—p. 571.
*Mechanism of Compression in Case of Tumor of Cerebellopontile Angle. W. F. Schaller, San Francisco—p. 609.
*Infantile Type of Family Amaurotic Idiocy. J. H. Leiner and S. P. Goodhart, New York.—p. 616.
*Postencephalitic Respiratory Syndromes. S. E. Jelliffe, New York.—p. 627.
*Rôle of Syphilid in Parkinsonian Syndrome. I. Pardee, New York.—p. 662.

Tumor of Cerebellopontile Angle.—The case reported by Schaller was of a typical tumor of the acusticus of slow growth which presented a marked cerebellar incoordination but lacked any indications of optic edema, symptoms of intracranial pressure and facial paralysis. The choroidal changes about the disks may well have resulted from a former papillitis, due to transient fluid block. The compression of the brain stem was not marked, as the tumor extended upward and outward at the expense of the cerebellar hemisphere and the middle cerebellar peduncle. The lack of degeneration in the dentate nucleus, superior peduncle and red nucleus suggested that the cause of the cerebellar incoordination should be sought elsewhere. The evident cause was found in the degeneration of the middle peduncle and of the restiform body, and in the degeneration of the descending vestibular root, both of the latter degenerations being dependent on the unilateral destruction of the vestibular nerve root.

Infantile Type of Family Amaurotic Idiocy.—The two cases reported by Leiner and Goodhart represent clinically the classic picture of Tay-Sachs' disease, but in some points differ anatomically from the classic types.

Postencephalitic Respiratory Syndromes.—Jelliffe reports two cases. One patient had a mild "cold in the head," and then a definite night delirium in which he saw "angels"; he was apparently quickly restored to health and returned to school. Then nasal sniffling and complaints of nasal obstructions began; there was then an automobile accident with nose implication, followed by respiratory sequelae. These were of the classic tachypneic variety, involving both intercostals and the diaphragm, with apneic phases, trance states, tetany cramps, occasional semiconscious lapses or trancelike states (which should be compared with the stuporous attitudes described by Bilancioni and Fumarola), sleep formula reversal, behavior anomalies, and then parkinsonism, with greasy face, sialorrhea, polyuria and polydipsia. The second patient had a mild cold in December, 1924, and then developed a talkative hypomanic state with hallucinations of bugs crawling on the ceiling, which lasted from two to three days. This was followed by a definite, fleeting diplopia and a deep lethargic state. Some weeks later a respiratory sequel and a pronounced sleep reversal formula began. The respiratory attacks were tachypneic, irregular and were participated in by both intercostal and diaphragm muscles. With increasing tachypnea and almost continuous (fishlike breathing) shar expirations, the parkinsonian attitude, sialorrhea, polyur and polydipsia appeared. The patient was still under tre.

ment three months later, in June, 1926, without appreciable improvement from conscious levels.

Rôle of Syphilid in Parkinsonism.—In Pardee's opinion, the parkinsonian syndrome of neurosyphilis is established as a disease entity, its recognition depending on the zeal exercised in the study of that syndrome.

Archives of Ophthalmology, New Rochelle, N. Y.

56: 105 210 (March) 1927

Treatment of Iris in Cataract Operations H. Smith —p. 105.
Intra-Ocular Pressure L Bothman and S J Cohen, Chicago —p 110.
Pelvic Organs as Foci of Infection in Inflammatory Diseases of Eye W L Benedict, W. H Von Lackum and A A. C. Nickel, Rochester, Minn —p. 116
Glaucoma in Morgagnian Cataract A Knapp, New York —p 124
Slit Lamp Study of Posterior Lenticonus. E J Marsh, Paterson, N. J. —p 128
Corneoconjunctival Suture for Cataract Operations F H. Verhoeff, Boston —p 137
Protection of Eyes by Reflecting Glasses J Imre, Jr, Pecs, Hungary. —p 141.
Dystrophic Intracellular Opacity of Corneal Epithelium N M Black and F H Haessler, Milwaukee.—p 151
Report of Case of Flat (Infiltrating) Melanosarcoma of Choroid. J. W. Smith, New York —p 156
Relation of Nasal Ganglion to Glaucoma. H Byrd, Bradenton, Fla.—p 162.

56: 211 317 (May) 1927

Multilocular Cyst of Optic Nerve Meninges M Cohen and L. H. Meeker, New York —p 211
Bilateral Glioma of Retina in Nonenucleated Eye Cured by Radium Treatment M J Schoenberg, New York —p 221
Principles of Syphilotherapy Applied to Eye. J H Stokes, Philadelphia. —p 229.
Visual Field in Optic Neuritis Secondary to Sinus Disease. J M. Griscom and M M Monroe, Philadelphia —p 244.
Organoluetin Reaction in Diagnosis of Interstitial Keratitis. D. K. Pischel, San Francisco —p 249
Abscesses of Optic Nerve. A. B. Reese, New York —p 265
Use of Oblique Muscles of Eye. G L Johnson, Durban, South Africa. —p. 272
Adenocarcinoma of Upper Lid Extending into Orbit. H. W. Wootton, New York.—p 275
Treatment of Iridocyclitis by Subconjunctival Injections of Atropine and Epinephrine F H Rodin, San Francisco —p 277
Fatty Infiltration of Anterior Segment (Xanthomatosis Bulbi). S R. Gifford, Omaha —p 281
Familial Maculocerebral Degeneration in Half Brother and Sister. S. J. Beach, Portland, Me —p 286.

Archives of Otolaryngology, Chicago

5: 301 384 (April) 1927

Is Radium Cure for Cancer of Larynx? T. J Harris, New York —p 301.
*Diagnosis of Chronic Maxillary Sinusitis H. P. Johnson, Rochester, Minn —p 309
Method of Introducing Esophagoscope. M J Mandelbaum, New York. —p 317.
Peroral Endoscopy in Complications Following Operations on Nose and Throat G Tucker, Philadelphia —p 321.
Visualization of Eustachian Tube by Roentgen Ray. W. Spielberg, New York —p 334.
Tic Douloureux of Glossopharyngeal Nerve. Case H. M. Goodyear, Cincinnati.—p. 341
Id Cured by Mastoidectomy H S Wieder, Philadelphia —p 344.
Pemphigus of Throat. A H Rubenstein, Syracuse, N. Y —p 349
New Antrum and Frontal Rasps. R G Reaves, Knoxville, Tenn —p 351.
Tumors of Nose and Throat Review of Literature. G. B. New, Rochester, Minn.—p 352

Diagnosis of Chronic Maxillary Sinusitis.—Ninety-two per cent of the cases in the series reported on by Johnson could be diagnosed by means of the clinical data alone; in 67 per cent of the cases a diagnosis might have been made from the *roentgenographic observations*, while 98 per cent were diagnosed from the clinical and roentgenographic observations combined. Almost 19 per cent of the diseased maxillary sinuses could be traced to extension of dental infection. From the investigation of 300 maxillary sinuses, it would seem that a diagnostic puncture of this sinus is justifiable when there is any suspicion regarding its condition. This is the only means of making a correct diagnosis.

Archives of Surgery, Chicago

14: 955 1124 (May) 1927

Relation of Nitrogen Bodies of Blood to Surgical Problems in Liver and in Biliary Tract Disease· I. A O. Wilensky, New York.—p 955.
*Torsion of Gallbladder A M. Shipley, Baltimore —p 968
*Effect of Therapeutic Amounts of Digitalis on Cardiac Output of Anesthetized Dog. III. A Blalock, Nashville, Tenn.—p 978.
*Stomach Mucosa in Ulcer and Carcinoma. M. E. Steinberg, Portland, Ore —p 991.
*Fractures of Skull. B. M. Vance, New York.—p. 1023.
Lobar Atelectasis in Chronic Pulmonary Suppuration. E. D. Churchill and G. W. Holmes, Boston —p. 1093.
Thirty Second Report of Progress in Orthopedic Surgery. P. D. Wilson, Boston, and others —p. 1107.

Torsion of Gallbladder.—Shipley reviews twenty-one cases of complete torsion of the gallbladder on record in the literature, and reports one new case.

Effect of Digitalis on Anesthetized Dog.—The observations made by Blalock offer a rational experimental basis for the belief that the *preoperative administration of digitalis may* be of considerable value in the preparation of certain types of patients for operation under general anesthesia. They also suggest that this drug should not be used during shock following operations.

Stomach Mucosa in Ulcer and Carcinoma.—Histologic examination made by Steinberg of twelve stomachs resected for ulcer of the duodenum or ulcer of the stomach and eight stomachs resected for cancer reveals that there are evidences of gastritis in the mucosa of all stomachs examined. Defects in the mucosa, erosions and small microscopic ulcers are frequently encountered. The changes are mostly limited to the distal part of the stomach in the area of the distribution of the pyloric glands. The evidences of gastritis are more pronounced in specimens resected for cancer.

Fractures of Skull.—Vance reviews 512 necropsies and sixty-one cases studied clinically.

Arkansas Medical Society Journal, Little Rock

23: 181-199 (April) 1927

Medical Activities of Department of Interior. H. Work, Washington, D C.—p 181.
Community Hospital as Factor in Promotion of Scientific Medicine and Human Sociology. F. L. Husbands, Blytheville —p 184.
*Intravenous Injections of Mercurochrome. R. H. T. Mann, Texarkana. —p 187.
Better Tonsil Needle. P. L. Mahoney, Little Rock.—p. 189.

23: 201-211 (May) 1927

Commoner Diseases of Female Urethra. H. H. Howze, Texarkana —p 201
Eye Manifestations of Toxemias of Pregnancy. J. G. Mitchell, El Dorado. —p 204.

Mercurochrome in Sinus Thrombosis and Lung Abscess.—*Mann reports two cases in which good results apparently* followed the intravenous injection of mercurochrome. One was a case of lateral sinus thrombosis coming on after a mastoidectomy done for a hemolytic streptococcus infection. The second case was one of lung abscess. A threepenny nail was removed from the right bronchus and immediately the boy, aged 6, began to cough up much offensive pus. Later, a large abscess of the lung developed. The boy's condition became progressively worse. Then the mercurochrome was injected, and recovery ensued immediately.

Asso. American Med. Colleges Bulletin, Chicago

2: 193 288 (July) 1927

*Historical Method of Teaching Clinical Medicine. C. P. Emerson, Indianapolis —p. 193
*Senior Students as Interns. R. H. Oppenheimer, Atlanta, Ga.—p 203.
Graduate Plan in Medical Education. M. C Winternitz, New Haven, Conn —p 208.
*Experiment in Teaching Physiology A. C Redfield, Boston —p 214.
*Use of Pathologic Museum in Teaching Medicine and Surgery. H. T. Karsner, Cleveland —p. 218.
Student Assistants in Medical Courses. A. P. Mathews, Cincinnati.—p 224.
Problems of Bacteriologist in His Relations to Medicine and Public Health H. Zinsser, Boston —p 227
Outpatient Clinic and Problem of Instruction in Clinical Medicine. G E Shambaugh, Chicago —p 236.
Place of Pediatrics in Undergraduate Teaching. A. G. Mitchell, Cincinnati —p. 241.

Historical Method of Teaching Clinical Medicine.—Emerson says that by greatly increasing its benefits to humanity, medicine makes it also necessary that medical schools graduate better and still better trained general practitioners Too *great loyalty to organization, too great a dependence on tools,* too great a pride in quantity production is one reason why the American medical schools today are not producing their best product. *Tools and organizations for standardized mass* production are splendid, but students should be taught, in the light of history, that they must live up, not to the most conspicuous elements, but to the best that there is in their culture, should understand its weakness, and should try to correct some of the evils which too great loyalty to that culture may produce. And finally, the lesson of history also suggests that American medical schools now should emphasize more not only greater accuracy in training but also the general culture of their graduates, their wider sympathies, in order to meet the wider social problems which medicine alone can answer.

Senior Students as Interns.—Oppenheimer feels that senior internships are of value to the student only when they are given in hospitals which are controlled directly as teaching units of the medical school or which have as staff members a sufficient number of the medical school faculty to insure to the student careful and persistent supervision of his work Internships in hospitals which are not intimately connected with the medical school are either positively detrimental to the student or of very questionable value. Senior internships tend to lessen the interest of the student in the scheduled work of the curriculum. They limit his opportunity for reading and study. Only students doing entirely satisfactory class work should be permitted to accept internships.

Experiment in Teaching Physiology.—The experiment described by Redfield consists in selecting a few of the more capable students who are expected to take the ordinary examinations in physiology, but who are excused from the regular laboratory work. Special laboratory experiments are substituted. These laboratory experiments reduced the amount of laboratory instruction one-half Then for the other half of the time they are given reading to do. This reading consists in selected chapters from the principal monographs which happen to be available At the end of each week a conference is held to talk over the work which the students have been doing Redfield is inclined to think that too much reliance is placed in the laboratory method in elementary teaching "Like all material machines the laboratory course tends to get us in its grip. We get it organized, we get the outline printed, we get all the necessary pieces of apparatus, we get the stockroom boys trained and then the thing will run itself I think that that kind of a machine gets a momentum which carries us along and keeps us very frequently from thinking seriously about just exactly what each of these experiments really means for the education of the individual"

Use of Pathologic Museum in Teaching.—Karsner is convinced that the pathologic museum so arranged as to be readily available for the use of the clinical teacher has its place in the scheme of medical education Ideally, the use of fresh preparations should furnish the anatomic basis for clinical and pathologic studies Admittedly, this is not practicable because of the fact that the type of fresh material available does not often coincide with the clinical cases to be illustrated The museum must be sufficiently extensive to provide representative lesions of most, if not all, the clinical conditions which must be illustrated If there is a coincidence of fresh material and living patient, the opportunity to correlate should be utilized Otherwise, the museum is to be called on The teacher, however, must not fail to realize that the museum preparation is little more than a three dimensional picture of the lesion under study and demonstrate it accordingly It is to be recommended that every medical school devote a goodly amount of attention to building up a freely accessible and reasonably extensive pathologic museum, but this should be done with a realization of the limitations of this type of material

Atlantic Medical Journal, Harrisburg, Pa.

30: 403-480 (April) 1927

Bone Tumors J C. Bloodgood, Baltimore —p 403.
Pneumonia in Infants and Children Clinical Diagnosis Roentgen Ray Examination: Autopsy. A. Hand, R. S Bromer, A. D. Waltz and J J. Reilly, Philadelphia.—p 409
Cancer of Lower Portion of Large Bowel. Nine Cases. H. H. Holderman, Shenandoah, Pa —p. 410.
Cardiac Decompensation · I. Causes. E. M Green, Easton, Pa —p 414.
Id . II Symptomatology C. H Smith, Uniontown, Pa.—p 415.
Id · III Diagnosis and Prognosis J B McAlister, Harrisburg —p 417.
Id : IV. Treatment A P. D'zmura, Pittsburgh —p 419

Postencephalitic Paralysis of Downward Movement and of Convergence. W. S Reese, Philadelphia —p 423
Chronic Frontal Sinusitis (Bilateral) with Fistula S R Skillern, Philadelphia —p 424
Function of Sinuses H A Laessle, Philadelphia —p 424
Bilateral Posterior Lenticonus. W. G Shemeley, jr, Philadelphia —p 425
Plastic Flap Method in Radical Mastoid Operation. H. Dintenfass Philadelphia —p 426
Control of Severe Nasal Hemorrhage H B Cohen, Philadelphia —p 428.
Temporosphenoidal Abscess M S Ersner, Philadelphia —p 428
Sarcoma of Ethmoid Labyrinth F M. Strouse, Philadelphia —p 430
Pansinusitis N P. Stauffer, Philadelphia —p 430
Therapeutic Value of Light and Color K W. Baldwin, Philadelphia. —p 431
Pregl's Colloidal Iodine Solution in Treatment of Organized Exudate in Eye Tissues A V MacKenzie, Philadelphia —p 432
Palsy of Inferior Oblique Muscle S L Olsho, Philadelphia —p 433
Frontal Sinusitis Resulting in Retrobulbar Neuritis R J. Hunter, Philadelphia —p 434
Purpura Hemorrhagica H W Jones, Philadelphia —p 435
Traumatic Injuries of Foot Related to Bituminous Coal Mining W E. Dodd, Rossiter, Pa —p 436

Boston Medical and Surgical Journal

196: 677 720 (April 28) 1927

Cholecystitis, Cholesterol Gallbladder and Silent Gallstones F. H Lahey, Boston —p 677
*Incidence of Heart Disease in Massachusetts P D, White, Boston —p 689
Use of Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis M H Joress, Rutland, Mass —p 693
Health Clinic R W. Buck, Boston —p 697

Incidence of Heart Disease in Massachusetts.—In the fifteen year period from 1910 to 1925, the mortality from heart disease in Massachusetts has apparently increased from 0.119 to 0.208 per cent (of the total population). White says that heart disease is by far the commonest cause of death in this state at the present time (in 1925 the mortality from cancer was 0.125 per cent, from tuberculosis 0.083 per cent, and from pneumonia, 0.057 per cent). The total death rate in Massachusetts has dropped in fifty years (1875 to 1925) from 2.15 per cent to 1.23 per cent, and the infant mortality has dropped in twenty-five years (1900 to 1925) from 15.6 per cent to 7.3 per cent Analysis of the etiologic factors responsible for 3,000 persons seeking medical help for cardiac symptoms and signs in hospital (1,000), general (1,000) and consultation (1,000) practice during the last few years in New England has indicated that about 80 per cent had organic heart disease and 20 per cent had functional disturbances alone Of the organic cases, the following types were differentiated "rheumatic," 54.5 per cent, coronary disease (arteriosclerotic) without hypertension, 20.5 per cent; hypertension without coronary disease, 13.5 per cent, hypertension with coronary disease, 17.5 per cent, syphilis, 4 per cent, hyperthyroidism, 3 per cent, subacute bacterial endocarditis, 2 per cent, angina pectoris, 21 per cent in consultation and 9.5 per cent in hospital practice; coronary thrombosis, from 3 to 6 per cent, and congenital heart disease, 1.5 per cent About one half of the "purely functional" cases were classed as "effort syndrome" (10 per cent of the entire series) Of the 3,000 cases, 2.5 per cent were styled "unknown," there being no reasonable possibility of fitting them into any etiologic group

Illinois Medical Journal, Oak Park

51: 337-420 (May) 1927

Gallbladder Disease from Standpoint of Surgeon D C Straus, Chicago. —p 373
*Therapeutic Use of Radium Salts F D John, Chicago —p 379
Clinical Conferences for Smaller Communities F. A Kraft, Danville. —p 383
Effect of Medical Diathermy on Renal Excretion of Urea and Chlorides. M L Weinstein and J Klein, Chicago —p 385
Never Told Facts J. Hund, Peoria —p 386
Digital Exploration of Cancerous Rectum. C. J. Drueck, Chicago. —p 392
Economic Factor in Treatment of Syphilis F. R. Schmidt, Chicago —p 398
Tularemia· Seven Cases T Kirkwood, Lawrenceville —p 401
Treating Syphilis. J. L. Webb, Chicago —p 405
Spasmophilia. E. C. Wrightsman, Chicago —p 408.
Tonsillar Hemorrhage S. M Moritz, Chicago —p 410
Solitary Cyst of Kidney: Case J R. Vonachen and A. Sprenger, Peoria —p 413.

Therapeutic Use of Radium Salts.—John states that he has used radium chloride in a variety of ailments with gratifying results. Many of the cases had resisted other types of treatment but responded promptly to this therapy. He has not observed a single bad effect in any of them. The treatment is simple to administer and apparently harmless in proper dosage, and the results obtained have been permanent.

Journal of Infectious Diseases, Chicago

40: 549-628 (May) 1927

*Rheumatic Fever Nonmethemoglobin Forming Streptococcus. K. E. Birkhaug, Rochester, N. Y.—p. 549
*Classification of B. Coli. B. L. Monias, Chicago.—p. 570
*Sewage Filtrate as Source of Bacteriophage. J. A. Caldwell, Dallas, Texas.—p. 575
*Persistence of Botulinum Toxin in Discarded Canned Foods. W. A. Starin, Chicago.—p. 579
*Impermeability of Small Intestine of Rabbits to Botulinum Toxin. G. M. Dack and W. L. Wood, Chicago.—p. 585
Isolation, Purification and Chemical Nature of Immune Hemolysins. S. Uchida, Philadelphia.—p. 586
Id. Of Typhoid Antibodies. S. Uchida, Philadelphia.—p. 597
Serum Antilysins and Methods for Their Removal. S. Uchida, Philadelphia.—p. 605
Removal of Anticomplementary Substances with Hydrochloric Acid (Sachs' Method). S. Uchida, Philadelphia.—p. 610
Influence of Anticomplementary Substances on Wassermann Antibody. S. Uchida, Philadelphia.—p. 615
Skin Reactions with Pneumococcal and Other Bacterial Filtrates and Extracts. R. D. Herrold and E. F. Traut, Chicago.—p. 619

New Streptococcus in Rheumatic Fever.—A new species of a nonmethemoglobin-forming, insulin-fermenting, bile-insoluble and toxigenic, gram-positive streptococcus was regularly isolated by Birkhaug from the tonsillar crypts and abscesses, and irregularly from the blood cultures, heart vegetations, feces and urine of persons stigmatized by rheumatic fever and its syndromes. In a study of the production of soluble toxins by streptococci isolated from rheumatic fever patients, it was found that among eighty-nine strains of *Streptococcus hemolyticus*, toxin was not demonstrated; among 247 strains of *Streptococcus viridans*, 47 per cent were toxin producers, and among sixty-eight strains of the nonmethemoglobin-forming streptococcus, 72 per cent were found to produce a soluble toxic filtrate, slightly weaker in potency than that produced by *Streptococcus scarlatinae* and *Streptococcus erysipelatis*. Among persons with a definite history of rheumatic fever and its syndromes, when tested intradermally with 0.1 cc. of a 1:100 dilution of the soluble toxic filtrate produced by the nonmethemoglobin-forming streptococcus, 56 per cent of adults and 76 per cent of children gave positive skin reactions, and when tested with 1:10 dilution of the toxin, 67 per cent of adults and 85 per cent of children reacted positively with lesions measuring more than 1 cm. in diameter within twenty-four hours after the injection.

Classification of Colon Bacillus.—Examination by Monias of seventy-five strains of *B. coli* gave two subdivisions: (1) strains that produce indole and creatinine (*Bacterium indolicum*), and (2) strains without these qualities (*Bacterium anindolicum*). Further subdivisions in both of these groups may be made according to their ability to ferment carbohydrates: varieties *communior*, *commune*, *aerogenes* and *acidi-lactici* corresponding to Jackson's nomenclature. A second group, *B. anaerogenes*, is characterized by the same qualities as the group *B. coli*, but differs in its inability to produce gas from carbohydrates. There are four subdivisions in this group, according to ability to produce indole and creatinine and to coagulate milk, or partial or total inability to do so. This forms a transition group between *B. coli* and *B. enteritidis*. The third group, *B. enteritidis*, differs from *B. coli* by the lack of power to coagulate milk and to ferment lactose. In this group, as in the group *B. coli*, two subdivisions are found: one with indole and creatinine production, the other without. In each of these groups there are again four classes, A, B, C, D, according to the fermentation of saccharose, raffinose and dulcitol.

Sewage Filtrate as Source of Bacteriophage.—Sewage filtrate, as tested by Caldwell with sixty-seven strains of gram-negative organisms, yields a potent bacteriophage for practically all strains of *B. coli* isolated from urinary infections, and for most of the other common gram-negative bacilli encountered in human diseases. The use of sewage filtrate as a source of bacteriophage will materially increase the number of urinary infections that can be treated with the bacteriophage, and will avoid confusion in the identification of resistant strains of bacteria.

Persistence of Botulinum Toxin in Canned Foods.—Starin states that both the A and B types of *Clostridium botulinum* are capable of producing toxin in corn, peas and salmon, that will withstand exposure to drying, light—both diffuse and direct—and seasonal variations of temperature for a period of at least ninety days. Putrefaction of vegetables and meats which were originally highly toxic does not cause a disappearance of the toxin. Peas, corn and salmon, exposed in a moist condition and highly contaminated with putrefactive organisms, yielded botulinum toxin after an interval of 122 days.

Impermeability of Small Intestine to Botulinum Toxin.—The duodenum and ileum of the rabbit were found by Dack and Wood not to be permeable to botulinum toxin. Some toxin was demonstrated in the blood from the duodenum after sixty minues, but not more than was found in the heart blood at the end of the experiment.

Journal of Urology, Baltimore

17: 395-468 (April) 1927

*Renal Tuberculosis. G. J. Thomas, Minneapolis, and T. J. Kinsella, Glen Lake, Minn.—p. 395.
*Gonophage: Bacteriophagic Principle Elaborated by Gonococcus. P. S. Pelouze and F. S. Schofield, Philadelphia.—p. 407.
Hydronephrotic Double Kidney with Bifid Megalo Ureters. E. M. White, Chicago.—p. 439.
*Stab Wound of Kidney. H. S. Jeck, New York.—p. 449.
Intravesical Ureteral Cyst Associated with Embryonic Cartilage in Kidney of New Born Infant: Case. C. M. Spooner and M. L. Lindsey, Rochester, Minn.—p. 453.
Technic of Extracting Ureteral Calculi and Dilating Ureter. G. M. Laws, Philadelphia.—p. 461.
Temporary Ureteral Drainage. J. A. H. Magoun, Toledo, Ohio.—p. 463.

Renal Tuberculosis.—Thomas and Kinsella assert that every patient infected with tubercle bacilli is a candidate for renal tuberculosis. The physician and the patient may not notice any symptom indicating this infection, but repeated urologic examinations, including complete urinalysis and animal inoculation, will reveal many unsuspected cases. Tissue destruction with renal tuberculosis or renal phthisis is a late lesion that is most frequently encountered by the surgeon. The diagnosis and early treatment of the renal tuberculosis may prevent the development of renal phthisis. Renal infection with tuberculosis is through the blood stream. Bilateral infection is the rule. Renal tuberculosis may end in clinical arrest or cure. Sanatorium treatment is necessary if renal tuberculosis is to be arrested or cured. This is suggested following the surgical removal of one kidney, as well as with bilateral infections.

Gonophage.—The gonococcus during its process of autolysis produces a substance that is lytic to other gonococci. Clinical experience with gonophage has convinced Pelouze and Schofield that the gonophage does have some favorable action against the disease in some persons, and that other ways of using it might give better results. The occurrence of systemic and local metastases, as well as the presence of gonococci in the urethral and prostatic secretions in some patients long after the administration of gonophage, would suggest that it does not greatly affect the body immunity processes.

Stab Wound of Kidney.—Jeck's patient developed a perinephritic abscess, and following this a suppurative posterior mediastinitis. Death was caused by a suppurative peritonitis, the result of an acute suppurative nephritis.

Southwestern Medicine, Phoenix, Ariz.

11: 203-246 (May) 1927

Congenital Valvular Obstruction of Posterior Urethra. C. S. Vivian, Phoenix.—p. 203.
Bone Tuberculosis. E. H. Brown, Phoenix.—p. 204.
Treatment of Pulmonary Hemorrhage. V. Randolph, Phoenix.—p. 208.
Sudden Death from Acute Laryngeal Obstruction of Nondiphtheritic Origin. H. Leigh, El Paso, Texas.—p. 210
Thoracoplasty in Tuberculosis. E. W. Phillips, Phoenix.—p. 213
Anesthesia in Chest Surgery. S. I. Bloomhardt, Phoenix.—p. 216
Value of Roentgen Ray Therapy in Dermatology. L. M. Smith, El Paso, Texas.—p. 218
Bronchoscope. W. E. Vandevere, El Paso, Texas.—p. 220.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted.

Australian J. Exper. Biol. & Med. Sci., Adelaide

4: 1 60 (March 16) 1927

Conditions Affecting Viability of Cultures of Infusoria Allelocatalysis T B Robertson —p 1
*Structure of Neuron Junctions of Spinal Cord O W Tiegs —p 25
Supposed Distinction of Australian Aboriginals into 'Straight' and 'Wavy Haired Individuals O W Tiegs —p 31
Origin of Acetaldehyde in Bacterial and Animal Metabolism M D Whetham —p 35
*Achromobacter Perolens (n sp) Cause of "Mustiness" in Eggs A W Turner —p 57

Structure of Neuron Junctions of Spinal Cord—Tiegs states that collaterals are recognizable within the gray matter of the spinal cord by the fact that they undergo branching the point of branching being marked by a small triangular piece of protoplasm Most of the collaterals thus identified when followed along their length, emerge from the plane of the section, or become confused with other fibers But occasionally it is possible to trace these fibrils right into the *dendrites* *This is taken as direct evidence in support of the* view previously put forward on indirect evidence, that there is a direct neurone continuity in the spinal cord, the collaterals entering the nerve cells via the cell dendrites No evidence for the existence of synapses branching on the outside of the nerve cells has yet been found In support of the view that the neurofibrils are genuine cell structures, it is pointed out that under certain circumstances they may be seen in the unfixed nerve cell

Cause of Mustiness in Eggs.—Turner is convinced that mustiness in eggs is caused by the infection of the eggs with a specific organism, *Achromobacter perolens* (n sp) The possibility of eggs becoming infected in the body of the fowl is remote, since the organism will not grow at the temperature of the fowl's body Since the organism grows at room temperature, it is probable that infection takes place after the egg is laid As the organism will grow slowly at or slightly above 0 C, it is possible that it may infect eggs in the cool stores

British Jour. Children's Diseases, London

24: 1 82 (Jan March) 1927

Acute Exanthemata J D Rolleston —p 1
*Petit Mal or Cardiac Disturbance? G A Sutherland —p 16
Microcephaly T Brushfield and W Wyatt —p 24
*Bacillary Dysentery in Aberdeen R Richards —p 31

Tachycardia and Petit Mal.—Sutherland states that in connection with attacks suggestive of petit mal there may be present at these times a condition of tachycardia, with pulse rate over 160 a minute, without other obvious cardiac changes An attack is often definitely induced by excitement (nervous shock) or exertion (i e, running) While an organic basis of disease in the heart may be present, a similar condition of paroxysmal tachycardia with symptoms may occur in hearts organically sound

Bacillary Dysentery in Aberdeen—Richards emphasizes the fact that the occurrence of true dysentery bacilli among the general population is not so rare as is usually stated The treatment by magnesium sulphate is almost specific for bacillary dysentery, but it must be ruthless from 15 to 30 grains, in water, at least six times during the first day, with a daily diminishing number of doses as the symptoms begin to clear, and with a single morning dose for several days after these have all cleared With this, diet is almost as important

British Journal of Experimental Pathology, London

8: 93 148 (April) 1927

*Relation Between Amino Acids and Wassermann Reaction F S Fowweather and J Gordon —p 93
Lipolytic Activity of Tubercular Guinea Pigs' Tissues: I F C Happold and A Taylor —p 101
Id II Relationship of Cell and Lipolytic Activity in Disease W Susman and F C Happold —p 106
*Bactericidal Action of Mercurochrome L Colebrook and R Hare —p 109
Tungsten Arc as Experimental Source of Ultraviolet Radiation G L Alexander —p 115
Relationships Between Heat Stable Agglutinogens and Sensitivity to Bacteriophage in Salmonella Group F M Burnet —p 121
Experimental Sensitization to Culture Filtrates of Streptococcus Scarlatinae T J Mackie and D G S McLachlan —p 129
*Influence of Coagulation on Bactericidal Power of Blood V. G Walsh and D Harmsworth —p 135
*Immunity in Experimental Herpes S P Bedson and G J Crawford —p 138
*Transplantable Fibrosarcoma of Fowl A M Begg —p 147

Relation Between Amino-Acids and Wassermann Reaction—In experiments in vitro and on rabbits, and in parallel determinations of blood amino-acid nitrogen and the Wassermann reaction in a number of hospital patients, both syphilitic and nonsyphilitic, Fowweather and Gordon failed to demonstrate any relation between the amino-acid content of blood and its Wassermann reaction

Bactericidal Action of Mercurochrome—The conflicting reports made with regard to the alleged bactericidal efficiency in vivo of mercurochrome led Colebrook and Hare to make in vitro as well as in vivo experiments Serum derived from human blood treated with mercurochrome (from 1 40,000 to 1 10 000) did not have bactericidal power for staphylococcus or hemolytic streptococcus Human blood (defibrinated) which had received an addition of 1 10 000 of mercurochrome had considerably less power to kill staphylococci than the same blood without mercurochrome Bile derived from a rabbit which had been given a maximal dose (5 mg per kilogram) of mercurochrome did not possess bactericidal power for *Bacillus typhosus* The normal bactericidal power for *B typhosus* possessed by the serum of this rabbit was not increased by the injection of the drug These results suggest that no direct bactericidal effect, either in the blood stream or the bile is likely to follow the administration of mercurochrome They therefore do not afford support to the recommendation that the drug should be employed in septicemia and for the treatment of typhoid carriers

Influence of Blood Coagulation on Bactericidal Power.—Walsh and Harmsworth assert that blood develops bactericidal properties during the preliminary stages of clotting that bring about the formation of thrombin

Immunity in Experimental Herpes—It is shown by Bedson and Crawford that recovery from infection with the virus of herpes in the guinea pig is accompanied by the development of a general immunity to this virus, and that the serum of these convalescent guinea pigs possesses the power of *neutralizing the herpes virus in vitro* Further it has been found possible to increase this viricidal activity of the serum by hyperimmunization, and with the hyperimmune serum so obtained to produce a definite degree of passive immunity They have not been able to demonstrate that tissue emulsions from herpes immune guinea pigs possessed any neutralizing power for the herpes virus in vitro

Transplantable Fibrosarcoma—A slow growing fibrosarcoma of the fowl has been propagated by Begg, with living cells for four generations

British Journal of Tuberculosis, London

21: 63 120 (April) 1927

Value of Roentgen Rays in Diagnosis and Management of Intrathoracic Tuberculosis S Melville et al —p 63
Roentgen Rays in Sanatorium J E A Lynham —p 75
Lipiodol Injections F G Chandler —p 78
Occupational Therapy Adjunct in Treatment of Tuberculosis J B McDougall —p 81
Visit to Vejlefjord Sanatorium F W Godbey —p 88

British Medical Journal, London

1: 653 708 (April 9) 1927

Lister as Physiologist C S Sherrington —p 653
Lister as Pathologist and Bacteriologist W Bulloch —p 654
Lister as Surgeon B Moynihan —p 656
Lister: House Surgeon's Memories S C Thomson —p 659
Case of Excision of Knee and Elbow Joints by Lord Lister G T Beatson —p 662
Hinged Graft for Unstable Feet A K Henry —p 663
Treatment of Fracture Dislocation of Ankle Joint by Three Piece Sectional Plaster R W Power —p 664

1: 553 606 (March 26) 1927

*Surgical Treatment of Paralysis of Vocal Cord and of Diaphragm. L Colledge and C Ballance —p 553
*Trauma as Cause of Auricular Fibrillation J Hay and H W Jones —p 559
Ultraviolet Rays F Hernaman Johnson —p 562
Sporadic Bacillary Dysentery in England G W N Joseph and J S Manson —p 563
Tonsillectomy A J S Roe —p 564
Pulmonary Embolism Following Childbirth G W V Parry —p 563
Ocular Symptoms During Catamenia A W D Ombrain —p 564

Surgical Treatment of Vocal Cord Paralysis—Colledge and Ballance state that the best method of anastomosis of the recurrent laryngeal nerve to the phrenic nerve, so as to obtain recovery of movement of the paralyzed vocal cord in rhythm with the movement of the normal cord, remains to be determined

Traumatic Auricular Fibrillation—Five cases are recorded by Hay and Jones in which fibrillation resulted from trauma in one case the exciting factor was a powerful electric shock in the remaining four the exciting factor was sudden physical exertion putting an unexpected and undue strain on the heart In four of these men there was no evidence that the heart was diseased or abnormal and up to the onset of fibrillation they were living active normal lives The authors hold that the evidence justifies the view that sudden strain may, and frequently does, initiate auricular fibrillation and induce cardiac failure in men and women with diseased hearts, in fact, that fibrillation may result from physical strain in hearts that are apparently normal so far as can be determined by ordinary clinical methods

1: 705 750 (April 16) 1927

Heart Disease and Pregnancy L Oliver —p 705
Professional Regrets H R Andrews —p 712
*Treatment of Lethargic Encephalitis G Eden and A J Yates —p 714
Complete Recovery from Lethargic Encephalitis of Bulbar Type F W Kemp —p 716
*Experimental Production of Stone in Bladder R McCarrison —p 717
Actinomycosis in Brain of Child J D Ewart and G D Dawson —p 718
*Pernicious Anemia in Elderly People W L Templeton —p 719
Aneurysm of Posterior Tibial Artery Caused by Fracture of Tibia and Fibula M Morris —p 719
Local Anesthesia in Submucous Resection of Nasal Septum F P Sturm. —p 720
Henoch's Purpura in Adult Simulating Acute Abdomen J A. Hadley —p 720
Treatment of Influenza J F Reid —p 720

Treatment of Epidemic Encephalitis.—It is suggested by Eden and Yates that the infection in epidemic encephalitis is a symbiotic process In the first place the nasal mucous membrane is injured by one of the catarrhal group of organisms, and subsequently the virus of encephalitis is inhaled, passes through the injured mucous membrane, and thus enters the tissues, reaching the brain possibly by the perineural lymphatics In support of this there is a fair amount of evidence that for the transmission of the disease from one individual to another the virus of epidemic encephalitis must fall on mucous membrane previously altered by inflammation of such a character that its power of absorption of fluids in contact with it is greatly increased The initial injury to the nasal mucous membrane is generally remediable by treatment, and if remedied, it would appear that the virus of encephalitis cannot pass into the tissues, and patients become more susceptible to treatment by drugs Nasal treatment aims, not at curing epidemic encephalitis, but at preventing the admission of fresh virus into the tissues In those cases in which actual destruction has occurred in the central nervous system (a system in which regeneration is impossible), the most that can be said for washing out the nasal sinuses is that further irreparable injury is hindered, and in many cases appears to be prevented The parkinsonian gait and posture is rarely completely removed without the use of remedial exercises

Experimental Production of Stone in Bladder.—Stone in the bladder has been produced by McCarrison in rats by means of an ill balanced diet composed of foods commonly used by man The stones were of the phosphatic variety The main faults of this diet were (*a*) absence of protein of animal origin, (*b*) deficiency of vitamin A, and (*c*) excess of earthy phosphates To these faults there may possibly have been added a toxic action of the diet itself on the urinary tract

Pernicious Anemia in Elderly People.—Templeton reports two fatal cases occurring in women over 70 years of age. One woman was 75 at the time of death

Ceylon Journal of Science, Colombo

2: 1 40 *(March 16) 1927*

Personal Identification from Foot Prints G Mainwaring —p 1
Travelling Medical Laboratory L Nicholls —p 9
*Preparation of Anti Rabies Vaccine L Nicholls and F Burgess —p 13
*Use of Copper Aceto Arsenite (Paris Green) as Anopheline Larvicide. L Nicholls —p 21
Organization of Minor Anti Anopheline Field Work L Nicholls —p 31.
Melioidosis in European C R Denny and L Nicholls —p. 37.

Preparation of Antirabies Vaccine—The virus used by Nicholls and Burgess has been adopted in the Indian institutes This consists in preparing the emulsion of the brain and spinal cord with a solution of phenol (carbolic acid) of a strength which will kill the virus in twenty-four hours at 7 C, but which will not destroy its immunizing properties

Copper Aceto-Arsenite as Anopheline Larvicide.—There are many factories in Ceylon in which various articles are manufactured from coconut fiber, and this results in the accumulation of large mounds of coir dust which is of no commercial value The bulk of this can be sifted rapidly through a wire gauze sieve of thirty strands to the inch, and a very fine dust is obtained A number of experiments were carried out by Nicholls to compare this diluent of paris green with road dust It was found that a mixture containing not more than 2 per cent by weight of the paris green is both effective as a larvicide and safe so far as poisoning is concerned

Indian Medical Gazette, Calcutta

62: 121 176 (March) 1927

Intracapsular Extraction of Cataract H Smith —p 121.
Mass Treatment for Hookworm Infection on Tea Estates in Assam J M Rice —p 126
Analysis of One Hundred and Eight Intravenous Iodine Injections C. Krishnamurty —p 129
Infantile Cirrhosis of Liver M A K Iyer —p 130
Pharmacologic Action of Conessine Alkaloid of Holarrhena Antidysenterica R N Chopra J C Gupta J C David and S Ghosh —p 132
Case of Spastic Paraplegia Treated Successfully by Injection of Benign Tertian Malaria I H B Norrie —p 140
Case of Quinine Intolerance C Krishnamurty —p 142
Case of Dermatitis Exfoliativa Cured by Injection of Urea Stibamine. I H B Norrie —p 142
Case of Intestinal Obstruction N M Ghellam —p 143
Lens Opacities as Sequel to Kala Azar B N Bhaduri —p 144
Pernicious Forms of Malaria at Sompeta, Ganjam District C Krishnamurty —p 144
Foreign Body (Scorpion) in Ear T Seshachalam —p 145
Case of Syphilis V G Gopalasamy —p 146
Case of Tuberculous Disease of Hip Joint K Ram —p 146
Case of Typholumbricosis' B P Banerji —p 146
Fatal Case Associated with Filarial Infection K M Khan —p 147.
Intravenous Sodium Iodide in Goiter A V J Reddi —p 147.
Vomiting Caused by Morphine Y S Row —p 148

Indian Medical Record, Calcutta

47: 65 96 (March) 1927

Physical Exercise and Medical Inspection of Indian Girls B B Bose and J Banerji —p 65
[illegible] Death A Macdonald —p 67
Methods of Sewage Disposal Bacterial Infection A. P Som —p 74.

Journal of Laryngology and Otology, Edinburgh

12: 221 292 (April) 1927

Nervous Affections of Esophagus A B Kelly —p 221

Journal of Pathology and Bacteriology, Edinburgh

30. 185 512 (April) 1927

Experimental Pneumococcal Septicemia and Antipneumococcal Immunity. H D Wright —p 185
*Trypanosomiasis of Rabbits Transmission. H A Channon and H D. Wright —p 253
Variant Colonies of Staphylococcus Aureus. J. W. Bigger, C R. Boland and R A Q O'Meara —p 261
*Method of Preparing Staphylococcal Hemolysin J. W Bigger, C R. Boland and R A Q O'Meara —p 271

- *Pseudohemolytic Streptococci Isolated from Sputum in Pulmonary Tuberculosis W M Cumming—p 279
- Phenol and Tricresol Effects in Toxin and Antitoxin Solutions C G Pope—p 301
- *Benign Polyp of Esophagus S C Dyke—p 309
- Primary Carcinoma of Peritoneum and Bone Spindle Cell Carcinoma C P White and C E Brunton—p 313
- Effect of Heat on Agglutination of Bacterial Emulsions A N Goyle—p 331
- Value of Different Kinds of Antigen in Prophylactic 'Enteric" Vaccines J A Arkwright—p 345
- *Effect of Ultraviolet Rays on Rous Chicken Sarcoma C F W Illingworth and G L Alexander—p 365
- *Periodic Examinations of Streptococci of Human Throat C I Fox and D M Stone—p 377
- Influence of Cultural Conditions on Production of Diphtheria Toxin A F Watson and E Langstaff—p 383
- *Epithelial Heterotopias of Alimentary Tract A L Taylor—p 415
- *Paget s Disease of Nipple R Muir—p 451
- Lamb Dysentery T Hare and E Glynn—p 473
- Use of Wild Rabbit Serum in Laboratory W M Cumming—p 503
- Scrotal Cancer in Tamil Employed on Antimalarial Oiling A N Kingsbury—p 504
- Action of Bacillus Typhosus in Milk C Gorini—p 505

Transmission of Trypanosomiasis in Rabbits.—A hutch rabbit was found infected with *Trypanosoma nabiasi* Channon and Wright studied the mode of transmission Intravenous inoculations of infected blood into normal rabbits are not always followed by an infection Infestation of rabbits with infected fleas was found to be a reliable method of transmitting the disease Trypanosomes develop in the posterior station of the flea The bite of fleas containing the developing trypanosomes is not infective but, if their alimentary canals are eaten by rabbits, infection of the blood stream follows An attack of trypanosomiasis confers an active immunity which lasts at least six months It was not found possible to infect rats, mice or guinea-pigs

Preparation of Staphylococcal Hemolysin—The method of preparing staphylococcal hemolysin described by Bigger et al consists in suspending staphylococci from a solid medium in saline solution, and in freeing the fluid from cocci by centrifugalizing The lysin so prepared is said to be purer than any previously described, since it is free from the various adventitious substances present in broth cultures

Hemolytic Streptococci in Tuberculous Sputum—Of 119 patients suffering from pulmonary tuberculosis, twenty-two were found by Cumming to have hemolytic streptococci, indistinguishable from the ordinary hemolytic streptococci of surgical practice, in the sputum Of the 119 patients, eighty-nine have been shown to have in the sputum a streptococcus which has been termed *S pseudohemolyticus* This streptococcus bears marked resemblance to *S hemolyticus,* but is easily distinguished from it and from *S viridans* by cultural and serologic methods

Benign Polyp of Esophagus—The tumor described by Dyke was discovered at postmortem examination The patient had complained of inability to swallow either solid or liquid A diagnosis was made of a stricture, probably carcinomatous, at the level of the sixth dorsal vertebra with a dilatation just above it A gastrostomy was performed The patient's condition, which had been very bad at the time of the operation, became rapidly worse, and death occurred on the fourth postoperative day At *postmortem examination* it was at once apparent that there was no stricture of the esophagus, which was, in fact, enormously dilated The dilatation commenced at the level of the upper border of the cricoid cartilage and increased gradually and evenly to the level of the diaphragm, where the diameter was about 8 cm Palpation revealed a soft mass in the lumen of the viscus, which was found to be a pedunculated polyp attached to the anterior wall of the esophagus at the level of the cricoid cartilage and extending to the cardiac orifice, through which it protruded The length of the tumor from the attachment of the pedicle to the tip was about 20 cm It consisted of areolar tissue similar to that normally found beneath the esophageal epithelium, with a covering of squamous epithelium identical with that lining the esophageal tube

Effect of Ultraviolet Rays on Sarcoma—Illingworth and Alexander endeavored to demonstrate in filtrates rendered [illegible] by irradiation the presence of one or the other of Gye's factors, the "virus' and the "specific factor" The methods employed for inactivation of the fluids by heat, by prolonged incubation and by chloroform have been in every respect similar to those described by Gye From the experiments described, it would appear that neither of the two factors can survive exposure to ultraviolet irradiation

Streptococcal Content of Throat—Fox and Stone assert that the streptococcal content of the human throat maintains a constant standard as regards both quantity and type, the only important change associated with local pathologic conditions is an invasion by hemolytic streptococci

Epithelial Heterotopias of Alimentary Tract.—Taylor cites cases illustrating (1) the congenital heterotopias, superficial, of gastric intestinal and duodenal type, of submucous glands, intramural cysts adenomyomas and accessory pancreas, and (2) the acquired heterotopias of the hyperplastic and regenerative types

Paget's Disease of Nipple—Muir suggests that both Paget's disease and ordinary carcinoma are possible sequels of the same disease—intraduct carcinoma

Kenya Medical Journal, Nairobi, East Africa

3: 331 360 (March) 1927

- *Growth and Nutrition J M Henderson—p 333
- Polyvalent Vaccine in Prophylaxis of Bacillary Dysentery W H. Kauntze—p 342
- *Quinine and Malaria V S Hodson—p 349
- Anaerobic Cultivation in Single Small Tubes F P G de Smidt—p 354

Heredity, Growth and Nutrition—Henderson endeavors to show that in growth heredity plays a part as well as nutrition Further, as regards nutrition, an adequate diet with the proper constituents in the proper proportions is of the utmost importance There are however, several environmental factors, such as psychic influence, exercise and sunlight, which play their parts

Moderate Quinine Dosage in Malaria—Hodson pleads for a moderate dosage of quinine in the treatment of malaria 10 grains (065 Gm) after breakfast and 10 grains after dinner is said to be sufficient This dose is based on the rate of excretion, which is about 10 grains to the pint of urine This dosage is given to a patient with an acute attack and is continued for four days at the end of which time the patient is afebrile, no organisms are to be found in the peripheral blood, and to all appearances the cause of the illness has been absolutely controlled At this stage, the administration of quinine is stopped for two reasons (1) because the result of its administration has been so satisfactory, and (2) because any further immediate dosage gives rise to quininism in one of its many forms By stopping the administration of quinine as soon as its effect has been established, time is allowed for the excretion of all the drug before its use is recommenced, there can be no possibility of organisms becoming quinine resistant and, more than that, a period is allowed during which the resistance of the individual is stimulated Three days' freedom from quinine is the first allowance, which is then followed by a further three days of quinine administration, followed in turn by four days off This system of giving and withholding quinine is carried on for from two and a half to three months and is varied according to its effects which are judged at weekly or, later on, at fortnightly examinations of the patient

Lancet, London

1: 743 804 (April 9) 1927

- Lister s Contributions to Physiology C Sherrington—p 743
- Lister as Pathologist and Bacteriologist W Bulloch—p 744
- Lister as Surgeon B Moynihan—p 746
- *Muscular Mechanism of Respiration and Its Disorders C Briscoe—p 749
- *Light Treatment in Surgical Tuberculosis H Gauvain—p 754
- *Glycosuria Complicated by Gallstone C D Shapland—p 758
- Abdominal Abscess Value of Antiseptics J O Conor—p 759
- *Iodism with Edema Glottidis N W Snell and L H. Savin—p 759

Muscular Mechanism of Respiration.—Certain states of mind, certain somatic and visceral stimuli, senescence and respiratory stress produce changes in the mode of breathing These changes entail undue activity on the part of certain muscles, which activity Briscoe believes to be generally of the nature of enhanced and persistent tonus. This occurs at the expense of the resting period of these muscles. If transient, it may not be of moment, but if persistent it will soon produce exhaustion. Activity in muscles calls for a vast increase in blood flow, and in the case of repeated movement (phasic) contractions, this is provided by direct massage to the capillaries and veins. Persistent tonic contraction, so far from helping the circulation, actually impedes, so that exhaustion ensues leading to distress. Distress is appreciated by the patient as pain, and calls for investigation and treatment.

Light Treatment of Surgical Tuberculosis.—It is urged by Gauvain that the value of general light treatment in any particular district depends only partially on the intensity and nature of the sunlight available. For some persons very intense light is the reverse of beneficial, particularly in feeble cachectic patients with little power of response. What is of greater importance is the application of varying light and other stimuli, graded and varied according to individual needs. Patients able to respond well will do well under intense stimulation, whereas for weaker, cachectic and elderly patients, great caution should be exercised and only slight stimulation is at first appropriate. The search now being made for a suitable therapeutic artificial light of constant character and intensity, readily measurable by physical means or by individual biologic responses, and constant in application, is in Gauvain's opinion illogical, and clinical evidence supports this view. Rather, he says, should the method of varying stimuli be adopted, graded to produce optimum responses in individuals who are themselves susceptible to infinite changes in reacting power. Light is a tonic both to the mind and to the body, and its effect in stimulating mental activity is one of the most interesting and not the least valuable phenomenon associated with the complex and fascinating sequelae following light treatment in surgical tuberculosis.

Low Renal Threshold in Diabetes Mellitus.—In the majority of cases of diabetes mellitus, the renal threshold for sugar becomes raised; Shapland's case is unusual in that a true defect in carbohydrate storage has been associated with a very low renal threshold. In addition, the case was complicated by a diseased gallbladder and a marked degree of overweight. The method adopted to combat acidosis by giving a diet liberal in carbohydrates but restricted in fats before the operation, with plenty of fluid, sugar and insulin, with blood sugar control for several days after operation, led to a successful issue. Eight months later, this patient was free from all symptoms of the disease; his fatigue had gone; the urine had remained sugar free, and he felt strong and well. It seems probable that the removal of the diseased gallbladder was the deciding factor in alleviating the diabetic condition.

Iodism and Edema Glottidis.—Snell and Savin relate the case of a woman who developed iodism following the administration of 15 grains (1 Gm.) of potassium iodide at night and a total of 25 grains (1.62 Gm.) the next morning. She became very dyspneic, with some obstruction to respiration. Laryngoscopy showed edema glottidis. Breathing temporarily improved; but that evening a rapid tracheotomy had to be performed, with the patient dying and unconscious. The patient recovered.

1: 805-856 (April 16) 1927

*Retained Testis in Childhood. A. H. Southam and E. R. A. Cooper.—p. 805.
*Use of Compound Solution of Iodine in Exophthalmic Goiter. L. B. Cole.—p. 812.
*Growth of Tumor in Tissues Exposed to Roentgen Rays and Radium. S. Russ and G. M. Scott.—p. 815.
Outbreak of Enteritis Near Glasgow. W. R. Wiseman.—p. 817.
Undulant Fever Occurring in England: Two Cases. J. Bamforth.—p. 818.
Meningitis Associated with B. Proteus. G. Bewley and E. S. Horgan.—p. 819.
Case of Iodism. M. Masser.—p. 820.
Postmortem Cesarean Section, with Delivery of Live Child. I. R. Rosin.—p. 820.

Retained Testis in Childhood.—Fifty cases of inguinal retention of the testis have been treated by Southam and Cooper by placing the testis in the scrotum. In thirty-six cases good anatomic results were obtained; in fourteen the treatment failed. Two cases occurred in twins; in both brothers a retained testis, accompanied by a hernial sac, was found on the right side. There was no mortality in the series.

Iodine in Treatment of Exophthalmic Goiter.—Cole endorses the administration of compound solution of iodine in the treatment of true exophthalmic goiter. From 5 to 10 minims (0.3 to 0.6 cc.) of compound solution of iodine, three times a day, is a safe and efficient dose in most cases for the first few weeks' treatment, and 5 minims may be continued safely and with benefit to some patients for six months. An increase of symptoms during treatment, however, is an indication for a smaller dose. An abnormally firm thyroid, exceptionally severe nervous symptoms, or loss of weight during the first few weeks of treatment are warnings that compound solution of iodine may be dangerous.

Radiotherapy of Tumors.—Observations made by Russ and Scott on more than 100 rats suggest that irradiation of the skin distinctly hinders the growth of the tumor.

Medical Journal of Australia, Sydney

1: 321-356 (March 5) 1927

*Dietetic Treatment of Diabetes Mellitus. R. C. Winn.—p. 321.
Mental Deficiency: Causes and Characteristics. J. Bostock.—p. 325.
Roentgen-Ray Examination of Stomach. H. M. Hewlett.—p. 328.
Clinical and Radiologic Difficulties in Diagnosis of Lesions of Prepylorus and Posterior Gastric Wall. H. B. Devine.—p. 330.
Scar in Cesarean Section: Two Cases of Rupture of Uterus. C. E. D'Arcy.—p. 333.
Method of Growing Chick Tissues in Vitro. W. Moppett.—p. 335.
Chemotaxis in Tissue Culture. W. Moppett.—p. 336.
*Case of Systemic Blastomycosis: Formation of Myxomatous Looking Mass. J. B. Cleland.—p. 337.

1: 357-390 (March 12) 1927

Syphilis in Children: Bismuth Treatment. R. Southby.—p. 357.
Some Medical Aspects of Settlement at River Derwent (1803-1805). W. L. Crowther.—p. 370.
Wandering Endometrioma. R. Davies.—p. 373.
Amebic Dysentery Acquired in North Queensland. A. H. Baldwin, G. M. Heydon and J. A. Broben.—p. 374.

1: 391-422 (March 19) 1927

Treatment of Acute Suppurative Arthritis of Knee Joint. B. Quick.—p. 391.
Principles Underlying Treatment by Radium. C. Macdonald.—p. 398.
Radium Treatment at Women's Hospital, Melbourne, During Last Five Years. W. D. Saltau.—p. 403.
Infantile Diarrhea. R. L. Forsyth.—p. 407.
Effect of Galvanism in Treatment of Denervated Muscle. N. D. Royle.—p. 409.

Dietetic Treatment of Diabetes Mellitus.—Winn states that rest to the islands of Langerhans continues to be the essential principle in the treatment of diabetes mellitus, and this can best be secured by a moderate reduction in the diet without rest in bed and without insulin in the majority of cases. The Allen method he believes to be ineffective in emaciated patients, unnecessary in others and because of starvation (and consequent lowered resistance to infection), obnoxious and harmful in all. In the method described by Winn, the patient is examined once a week, and increases of 200 calories are made in the diet if the urine is "sugar free." By varying combinations of three "diet groups" (of 500, 600 and 900 calories), it is possible to supply completed diets ranging from 1,000 calories to any limit, with rises of from 100 up to 2,000. Just as it is the custom in lists of vegetables and fruits to strike averages for the carbohydrate content, so for meat and fish average figures have been used. Only a few exceptions and alternatives have been listed.

Systemic Blastomycosis.—The case reported by Cleland is said to be the first case since 1916. Several Australian cases of blastomycosis have been recorded. A "tumor" in the right iliac region was thought to be an inoperable sarcoma, but proved on microscopic examination to contain numbers of a yeastlike organism which was not identified.

1: 423-490 (March 26) 1927

Australasian Medical Congress Number, Dunedin, 1927.—p. 423.

1: 491-526 (April 2) 1927

*Temperature and Pulse Rate in Disease. D. W. C. Jones.—p. 491.
*Biomicroscopy of Surface Capillaries. G. E. Brown and G. M. Roth.—p. 499.
Gravimetric (King) Determination of Basal Metabolism. H. S. H. Wardlaw.—p. 506.

Temperature and Pulse Rate in Disease.—Attention is drawn by Jones to the prognostic significance of the relations of temperature and pulse rate in cases of fever, and to the importance of certain independent variations of the pulse rate in other conditions. The fever of acute infections produces *a rise in pulse rate which closely corresponds with the rise* in temperature; conversely, when in any case under observation rises of these characters occur, an infection is to be inferred. In cases of good resistance, in which recovery occurs without injury to the heart muscle, the pulse rate falls with the temperature. Any delay in the fall of the pulse rate relative to the temperature is in proportion to the myocardial injury done. In fatal cases, there is a steady rise in pulse rate, irrespective of the temperature. In chronic disease, febrile or afebrile, a steadily rising pulse rate indicates progressive failure. Recovery is possible in acute cases, even with grave and prolonged disturbance of the pulse temperature ratio. Study of the graphic records of temperature and pulse on parallel charts is of great assistance in prognosis, both in acute and in chronic disease.

Biomicroscopy of Skin Capillaries.—Quantitative studies on the skin capillaries in the nail-fold and in other areas of the skin have been made by Brown and Roth in a large series of *normal and pathologic subjects.* The capillaries in the normal subject increase in length and become narrower with advancing age. The capillary flow becomes slower in the later periods of life, and there is an increased incidence of abnormal types after the fifth decade of life. In many cases of chronic glomerular nephritis, and in certain cases of severe primary hypertension, there are definite disturbances of the flow of the capillary blood and considerable contraction of the loops. In cases of Raynaud's disease and related vasomotor disturbances, there is diminished capillary tone and evident disturbance of the capillary flow in the different color phases characteristic of the former. In cases of polycythemia vera, the surface capillaries show distention of one or both segments and many new capillaries are opened up, thus permitting a larger exposure of capillary blood than obtains in the normal skin and forms the major basis in the production of the erythrosis.

South African Med. Assoc. Journal, Cape Town

1: 129-156 (March 26) 1927

Tumor Compressing Spinal Cord: Two Cases. O. K. Williamson, J. J. Levin, A. S. Strachan and F. W. Simson.—p. 130.
Herpes Zoster and Varicella: Coincident Occurrence. F. L. Wood.—p. 137.
Lingering Labor. E. C. Crithton.—p. 138.
Surgery of Bronchiectasis. A. L. McGregor.—p. 141.
Chemistry of Urine. A. D. Stammers.—p. 143.
Mediaeval Medicine. J. G. Muterer.—p. 147.

Acta Dermatologica, Kyoto, Japan

9: 233-320 (March) 1927

Primary Urethral Carcinoma: Two Cases. A. Fukai and S. Yoshida.—p. 239.
Primary Syphilitic Sclerosis of Man and Rabbits: Comparative Histopathology. S. Watanabe.—p. 251.
*Frambesia "Reinfection": Immunologic Study. Y. Ikegami.—p. 269.
Experimental Rat-Bite Fever: Serochemical Study. K. Fujita.—p. 273.
Bismuth Preparation "Neotrepol" in Frambesia: Experimental Studies. T. Matsunaga.—p. 297.
Roentgen-Ray Therapy of Condyloma Acuminata: Histologic Changes. B. Tashiro.—p. 305.

Immunity in Frambesia.—A comparative study of the experiments with frambesia and with experimental syphilis, Ikegami says, shows that there is a difference in the mode of immunity in the two diseases. The reinfection comes out positive in syphilis only in the earliest stage of the infection, and becomes negative 100 days after infection. In frambesia, however, the reinfection comes out positive even 617 days after infection. The features presented in the two lesions in the reinfection are also different. In syphilis, the lesion due to reinfection is not in any way different from that of the first infection, although at times prolongation of the incubation period is encountered. In frambesia, the reinfection chancre is evidently milder, the incubation period being rather longer. The so-called true immunity is obtainable in the case of syphilis within from two to three months, while in frambesia the time required to produce true immunity is greatly prolonged; i. e., at least not less than twenty months.

J. Oriental Medicine, Dairen, S. Manchuria

6: 17-29 (March) 1927

*Scarlet Fever. T. Satake.—p. 17.
Venous Pressure of Rabbits. T. J. Yen.—p. 21.
Intensity of Sun's Rays in Dairen (Dalny). J. Murakami and H. Nishida.—p. 23.
Digestibility and Resorpability of Food Preparation from White Sorghum Hulls. A. Abe.—p. 25.
*Blood Diazo Reaction in Pulmonary Tuberculosis and Typhoid. T. Yamaguchi.—p. 27.
Venous Sinuses of Skull of Japanese. Y. Liu.—p. 29.

Streptococci in Scarlet Fever.—Hemolytic strèptococci were demonstrated by Satake in 92 per cent of 167 early cases of scarlet fever from the mucous membrane of the pharynx; in 24 per cent of sixty-seven convalescent cases, and in thirteen cases out of the 168 normal persons in whom nothing remarkable had been seen in the pharyngeal mucous membrane. In 95.5 per cent out of the forty-four cases of scarlet fever either in the foci or in the postmortem material, hemolytic streptococci were demonstrated. Streptococci were seldom demonstrated in the circulating blood, but the results of the blood examination immediately before death showed that three out of sixteen cases gave positive results on bacteriologic examination. Satake is of the opinion that the views of the Dicks on the etiology of this disease are debatable. The etiology or the pathogenicity of scarlet fever is still to be established. Satake also recognizes a condition of "parascarlet fever."

Diazo Reaction in Tuberculosis and Typhoid.—Yamaguchi applied the diazo test in fifty-five cases of tuberculosis, and in twenty cases of typhoid. Of the former, twenty cases of a mild nature were negative. When the symptoms became more pronounced, almost all the cases became positive, and the urine diazo reaction, which previously had been negative, also became positive. When the symptoms were severe, or before death, the reaction was negative. In the course of typhoid, and during the first week, the diazo reaction in the blood was wholly negative.

Okayama Medical Journal, Okayama, Japan

446: 299-442 (March) 1927

Commissural Fibers Between Deiters' Nuclei and Between Bechterew's Nuclei in Rabbits. I. Yoshida.—p. 299.
*Substance Resembling Insulin Isolated from Appendix of Rabbit Made Experimentally Hyperglycemic. K. Misaki.—p. 306.
Bile Acids of Bile of Muraenesox Cinereus and Pagrosomus Major. T. Hosokawa.—p. 311.
Anomalies of Regulation of Blood Sugar After Deep Roentgen-Ray Irradiation. J. Hisamoto and M. Takeshima.—p. 332.
*Cartilage and Bone Deposits in Tonsil in Keratosis Pharyngis. F. Tanaka and D. Oda.—p. 345.
Cerebrospinal Tract of Birds. T. Kuwabara.—p. 351.
Action of Scillaren: II. Diastolic Effect. H. Utsunomiya.—p. 388.
Determination of Fibrin in Blood in Various Dermatologic and Urologic Affections. A. Fujiwara.—p. 399.
Pharmacologic Study of Several Sympathomimetric Amines. M. Fujita.—p. 427.

Insulin-Like Substance Obtained from Appendix.—An insulin-like substance was extracted by Misaki from the mucous membrane of the appendix. It was not found in the mucous membrane of the stomach or small intestine. This substance definitely lowered the blood sugar content of a normal rabbit made hyperglycemic experimentally. The author believes that this substance comes from the pancreas, and aids in the formation of glycogen and in the regulation of the sugar metabolism.

Cartilage and Bone Deposits in Tonsil.—Tanaka and Oda regard the blood calcium as being an important factor in *these cases, three of which are reported by them.*

Sei-I-Kwai Medical Journal, Tokyo, Japan

44: 1-9 (March) 1927

Saiki and Fujimaki's Vitamin A Deficient Diet. Y. Fujimaki, T. Kimura, Y. Wada and S. Shimada.—p. 1.
Antibodies: Immune Hemolysin. S. Uchida.—p. 6.
Situs Inversus Partialis with Malformation of Heart. M. Sakurai.—p. 9.

Bulletin de l'Académie de Médecine, Paris

97 · 545 582 (May 3) 1927

*Tuberculosis and Poisoning with War Gas E Sergent —p 545
*Effect of the Purification of Insulin in Favoring Phenomena of Hypoglycemia H Chabanier et al —p 577

Tuberculosis and Poisoning with War Gases—Sergent rarely observed tuberculosis among the immediate complications of poisoning with war gases On the other hand, he noted that the tardy occurrence of tuberculosis in war veterans is more and more frequent every year The author ascribes the fact to chance factors which favor the awakening of the disease and does not connect it with gas poisoning Of forty-eight veterans of the world war recently reexamined, twenty-two have a history of grave gas poisoning They present chronic lesions of the respiratory organs, so far, none suffers from tuberculosis Twenty-six have tuberculosis, which developed from three to eight years after the occurrence of an insignificant gas poisoning The respiratory lesions of the first group appeared under the form of chronic bronchitis, bronchopulmonary sclerosis, emphysema, bronchiectasis or asthma like dyspnea So long as tubercle bacilli are not found in the sputum or inoculation of guinea-pigs with the sputum is negative, the lesions are not considered as tuberculous

Rôle of Purification of Insulin Preparations in Phenomena of Hypoglycemia—Chabanier, Lebert Lobo-Onell and Lumiere assert that the morbid phenomena of hypoglycemia observed sometimes in the course of insulin treatment occur only with highly purified insulin About 600 000 injections of a slightly purified insulin were used by the authors in diabetic patients cured of glycosuria, and in nondiabetic patients with atonic ulcers Phenomena of hypoglycemia developed in a minimal number of cases, from occasional causes The relatively high percentage of hypoglycemia reactions in the American statistics is attributed to the use of highly purified insulin Foreign substances contained in the nonpurified insulin seem to reduce its hypoglycemia-inducing effect

Bulletins de la Société Médicale des Hôpitaux, Paris

51 491 565 (May 5) 1927 Partial Index

*Surgical Mask in Prevention of Contagion Armand Delille —p 523
*Note on Treatment of Anaphylactic Diseases with Peptone Chiray —p 525
*Peptone in Treatment of Anaphylactic Diseases Pasteur Vallery Radot and P Blamoutier —p 527
*Etiology of Arteritis Obliterans with Intermittent Claudication C Lian et al —p 534
Phrenicotomy for Tuberculous Lesions in the Pulmonary Apex R Burnand et al —p 542

A Simple Preventive Measure Against Tuberculosis and Infectious Diseases in Children—Armand-Delille suggests that tuberculous patients should wear a cloth mask (surgical mask) over the mouth when they are being auscultated He believes that this measure may save many members of the medical profession from tuberculous reinfection The method has been tried in children with measles The mask was applied when the children were moved from the measles ward to other parts of the building for roentgenologic or laryngologic examination or for ultraviolet-ray treatment Armand-Delille is persuaded that the measure arrested the spread of the disease

Note on Injections of Peptone in Treatment of Anaphylactic Phenomena—Intradermal injections of peptone by the Pasteur Vallery Radot and Blamoutier method were employed by Chiray in three cases of hay fever and in two cases of essential asthma The results, he asserts are encouraging He emphasizes that one series of injections is usually insufficient, and that successive series may not exert any effect

Intradermal Injections of Peptone in Treatment of Anaphylactic Diseases—Pasteur Vallery-Radot and Blamoutier recommend the use of intradermal injections of peptone in treatment of anaphylactic phenomena of the respiratory type Three years' experience has taught that the treatment succeeds chiefly in cases of hay fever and of essential asthma In the former it induces notable improvement, sometimes even cure The injections should not be begun before the coryza sets in, their preventive action being nil The peptone treatment is beneficial in cases of essential asthma in which the attacks are frequent The injections should be administered during the attack Patients thus treated were able to resume their usual occupations Patients with spasmodic coryza improved, but the relief was of short duration Fifty grams of peptone are mixed with an amount of water sufficient to make up 100 cc The first injection consists of 0 1 cc of the solution, the second, of 0 2 cc, the following, of 0 3 cc The last dose is never exceeded The injections are given every day, a series consists of twenty injections The solution must be injected into the skin, introduced beneath the skin, it may cause a phlyctena and consequent slough The normal local reaction is represented by a papule surrounded by an erythematous zone It disappears in about a week

Etiology of Arteritis Obliterans with Intermittent Claudication—Lian, Puech and Viau's study of the etiology of this disease is based on fifty-two personal cases In rare cases the cause is an acute or a chronic infection or an autointoxication, such as diabetes or gout Nutritional disturbances, occurring about the age of 50, are an important factor The role of syphilis is insignificant, while that of tobacco is considerable So-called Buerger's disease, the authors say, cannot be considered as a pathologic entity It is a clinical form of arteritis obliterans, occurring most frequently in Jews of Central Europe

Journal de Chirurgie, Paris

29 . 129 256 (Feb) 1927

*Operations on Glands Involved in Cancer of the Colon H Lorin —p 129

Surgical Treatment of Glands Involved in Cancer of the Transverse and Descending Colons—Lorin gives a detailed description of the normal lymphatics and glands of the transverse and of the descending colons He discusses the character and location of lesions occurring there in the course of cancer The part of the lymphoglandular system that should be removed corresponds to the seat of the cancer in the colon Operative methods for the different locations are suggested

Médecine, Paris

8 · 243 320 (Jan) 1927

French Ophthalmology in 1926 A Cantonnet —p 243
*The Normal and Pathologic Mariotte Spot F Terrien —p 249
Diagnostic Value of Changes in the Visual Field A Chevallereau —p 254
Results of Lacrymal Rhinostomy Aubaret —p 259
Role of Pneumococcus in Pathology of the Eye A Monbrun —p 26[illegible]
*Mercury in Treatment of Myopic Choroiditis De Saint Martin —p 268
The Marcus Gunn Phenomenon M Joltrois —p 272
*Blindness in the New Born P Bregeat —p 274

Modifications of Mariotte's Spot in Various Eye Diseases.—Terrien emphasizes the changes in the blind spot observed in myopia choked disk and glaucoma In severe myopia, the spot is greatly enlarged it is surrounded by a zone of partial blindness The larger this zone is the less favorable is the prognosis of the myopia Enlargement of both Mariotte spots confirms diagnosis of cerebral tumor In glaucoma, an arcuate scotoma develops between the blind spot and the fixation point This scotoma appears early when the visual acuity and the peripheral visual field are still normal Scotoma of glaucomatous origin is reduced by the action of pilocarpine, other scotomas are not influenced by the drug In optic neuritis reduction of central vision and of central scotoma is associated with enlargement of the blind spot In this case miotics are without effect on the changes in Mariotte s spot

Value of Mercury Treatment in Myopic Choroiditis—De Saint-Martin uses mercury cyanate in treatment of macular choroiditis complicating severe myopia In three of four cases described, the central scotoma and the macular focus disappeared A notable improvement was manifest in the fourth case Intravenous injections are preferred to injections A series of twenty injections must sometimes be repeated

Partial Blindness of Congenital Origin—Bretagne calls attention to a form of congenital blindness in the newborn, not accompanied by any apparent changes in the eye The light reflex and the dilatation of the pupils are almost normal The base of the eye is unchanged At the age of seven months, the infants acquire partial sight The visual defect is associated with signs of physical and mental debility These cases should not be confounded with those of blindness from congenital cataract, or with those of temporary blindness from meningeal disease So far, the histologic lesions are uncertain They are evidently located in the optic tract or in the cortical centers

Presse Médicale, Paris

35: 561 576 (May 4) 1927

Results of Surgery for Relieving Pain R Leriche—p 561
Roentgenotherapy of Lichen Planus A Zimmern and P Cottenot—p 564
Clinical Value of Hyperpnea Test P Pagniez—p 564

35: 577 592 (May 7) 1927

Pathogenesis of Pregnancy Pyelonephritis Levy Solal et al—p 577
Diagnosis and Prophylaxis of Fluorin Poisoning H Cristiani—p 578
*Vasoconstrictor and Vasodilator Substances in Therapeutics C Abadie—p 579

Therapeutic Value of Vasoconstrictor and Vasodilator Substances—Abadie lists some of the diseases which result from vascular disturbances, justifying vasoconstrictor or vasodilator treatment In glaucoma, instillations of atropine reduce the vasodilatation in the eye vessels, this brings about improvement In case of optic atrophy, atropine is without effect Spasms of the central artery of the retina may cause blindness in one or both eyes Injection of 0 001 Gm of atropine into the orbit or beneath the conjunctiva improves spasmodic optic atrophy, it does not influence optic atrophy of organic origin Among auditory diseases, Meniere's vertigo appears to be due to an intensive vasodilatation of the auricular arteries The favorable action of vasoconstrictor substances confirms the theory In herpes of the ophthalmic nerve, the vesicles, phlyctenas and pustules developing on the forehead are explained by vasodilatation of the supra orbital arterioles, provoked by the herpetic virus Generalized pemphigus results from vasodilatation of arterioles in the skin A case of grave generalized pemphigus was cured with vasoconstrictor treatment Epinephrine combined with ergotin and calcium chloride is recommended in cases in which vasodilatation is responsible for the lesions

35: 593 608 (May 11) 1927

*Coronary Theory of Angina Pectoris A Clerc—p 593
Systematization of Sympathetic Nerves of Organs J Delmas—p 596

Theory of Coronary Origin of Angina Pectoris—Clerc discusses at length the various theories of the pathogenesis of angina pectoris He distinguishes a functional angina pectoris which is the result of hyperesthesia or is a manifestation of mental disturbance Organic angina pectoris especially the angina of effort, is caused by lesions and obstruction in the coronary arteries This may cause sudden death from ventricular fibrillation Otherwise it results in local anemia with consequent motor disturbances and spasms in the coronary arteries

35: 609 624 (May 14) 1927

Alimentary Glycosuria in Diagnosis of Cancer of the Digestive Tract P Le Noir et al—p 609
*Sensation of Electric Discharge in Multiple Sclerosis J Lhermitte et al—p 610
*Contraindication to Curettage in Uterine Fibroma R Leibovici—p 615

Sensation of Electric Discharge as an Early Sign in Multiple Sclerosis—Lhermitte, Levy and Nicolas call attention to an early sign of multiple sclerosis consisting in a recurring sensation of an electric discharge, similar to that from the faradic current It is perceived in the vertebral column and in the extremities The phenomenon occurs exclusively on active or passive bending of the head or of the trunk, never during sleep or rest A similar sensation is felt by patients with lesions following concussion of the spine In both conditions the sensation is due to mechanical irritation of axis-cylinders deprived of their myelin During bending, elongation of the spinal cord and its compression against the vertebrae causes the irritation

Contraindication of Curettage in Case of Uterine Fibroma.—Leibovici emphasizes the fact that fibroma favors the occurrence of abortion In case of hemorrhage or retention of the placenta, curettage should never be used, especially if the fibroma is situated beneath the uterine mucosa Denudation of the fibroma may aggravate the hemorrhage or cause infection of the tumor Vaginal fibromectomy performed in the course of an infection is extremely dangerous Total hysterectomy by the abdominal route is the rational operation

Schweizerische medizinische Wochenschrift, Basel

57. 313 336 (April 2) 1927

Joseph Lister C Kaufmann—p 313
Physical Development and Campaign Against Minus Variants H W. Itten—p 315
*Collective Suggestion in Insane Asylums A Repond—p 322
Nervous Complications of Chickenpox and Smallpox" E Glanzmann.—p 325
*Barbital L Schwartz—p 326
Influenza with Epidemic Hiccup T Zangger—p 326

Collective Suggestion in Insane Asylums—Repond believes that the various excentric manifestations of negativism in schizophrenic patients are chiefly, if not exclusively provoked and kept up by the opposition of the patient to injurious surroundings and by insufficient psychologic treatment The unpleasant general conditions of the asylum are not apt to awaken the taste for reality in these patients, who find in their autism a comfortable escape from such surroundings Criminal insane inmates easily infect the whole institution An incompetent nurse may in a few days, create a generally hostile atmosphere Suggestion from the outside is another factor which favors entertainment of the collective suggestion that is unfavorable to treatment The asylums must be transformed into real hospitals with pleasant exteriors and interiors Wards should never contain more than fifteen patients The criminal psychopaths should be kept in special institutions, and the physicians should have more authority

Barbital—Schwartz's patient, a woman 81 years of age, took 150 Gm of barbital within eighteen months because of neurasthenia provoked by a cataract After that the cataract was extracted and the patient slept well without any craving for the drug

Pediatria, Naples

35: 345 400 (April 1) 1927

*Vaccine Treatment of Malta Fever M Giuffre—p 345
Treatment of Leishmaniasis F Graziano—p 359
Histamine Test of Gastric Function A Conti—p 365
Friedlander Bacillus Meningitis F Papandrea—p 371
Associated Leishmaniasis and Malaria B Vasile—p 376

35 401 456 (April 15) 1927

Pneumococcus Peritonitis M Bergamini—p 401
Blood Groups in Sicily F Minore—p 431
Adenoids and Enuresis F Di Lauro—p 437
Acute Polyarthritis F De Angelis—p 440

Vaccine Treatment of Malta Fever—Giuffre recommends intravenous injection of the vaccine, dissolved by the action of the antiserum

Policlinico, Rome

34· 487 522 (April 4) 1927

*Achorion in the Blood G A Ambrosoli—p 487
Echinococcus Cyst of the Omentum G Ciaprini—p 489
Wright's Seroreaction A Barbieri—p 492

Achorion in the Blood—Ambrosoli cultivated the exciting organism from the blood in a favus patient

34: 523 558 (April 11) 1927

Blood Groups in Trieste M Goldstein—p 523
Cesarean Section in Eclampsia I Tomasi—p 526

34: 559 594 (April 18) 1927

*Activation of Wassermann Reaction in Vitro V Giudiceandrea—p 559
Pernicious Malaria with Bulbar Syndrome B De Luca—p 561
Gynecomastia in Cirrhosis of the Liver D Zanalda—p 564

34: 153 216 (April 1) 1927 Medical Section

Lead Nephritis F Battaglia—p 153
Myxosarcoma of the Kidney in a Child L Sabatini—p 185
Melanosarcoma Metastases in the Glomeruli P S Maricondi—p [illegible]
Fasting Secretion of the Stomach V Debenedetti—p 200.

34: 153-204 (April 15) 1927. Surgical Section

Sarcoma of the Appendix. E. Capecchi.—p. 153.
Surgery of Tropical Abscess of the Liver. F. P. Cassitto.—p. 164.
Diagnosis of Silent Hypernephroma. G. Nisio.—p. 182.
Fibrosarcoma of the Ovary. G. Zampa.—p. 199.

Activation of Wassermann Reaction in Vitro.—Giudiceandrea dilutes the serum with three parts of an 0.85 per cent solution of sodium chloride and one part of 95 per cent alcohol (instead of with four parts of sodium chloride solution).

Riforma Medica, Naples

43: 289-312 (March 28) 1927

Meinicke Test. E. Meinicke.—p. 289.
*Hippocratic Fingers. A. Roncato.—p. 291.
Auto-Enterovaccine in Dermatology. P. G. Castellino.—p. 300.
Diphtheritic Marasmus. L. Martino.—p. 309.

Hippocratic Fingers.—Roncato found a low arterial and high venous pressure in all his five patients with hypertrophic ostearthropathy. The amplitude of the capillary pressure was greater than in normal individuals.

43: 313-336 (April 4) 1927

Blood Pressure Determination. W. Janowski.—p. 313.
Streptobacillus Vaccine. E. Tarantelli.—p. 316.
*Spirochetes and Hemoptysis. G. Bondolfi.—p. 321.
*Dextrose in Roentgen-Ray Treatment of Cancer. C. Guarini.—p. 323.
Periduodenitis and Neuroses. A. Jona.—p. 332.

Spirochetes and Hemoptysis.—Bondolfi failed to find evidence of special spirochetes occurring in hemoptysis in tuberculosis subjects, as claimed by Etchegoin and Besançon.

Dextrose in Roentgen-Ray Treatment of Cancer.—Guarini observed focal reaction and subsequent improvement in cancer after intravenous injections of dextrose. He is continuing his studies to verify the results of other authors from combining such injections with roentgen-ray therapy.

Revista Médica del Uruguay, Montevideo

30: 127-190 (March) 1927

Roentgen-Ray Diagnosis of Pneumonia. L. Morquio.—p. 127. C'cn.
*Erythema Caused by Cologne. J. Brito Foresti.—p. 155.
Clinical Importance of Blood Viscosity. J. Garcia Otero.—p. 166. C'td.

Erythema Caused by Cologne.—In about forty cases studied by Brito, the use of cologne had caused the development of persistent red spots. The offending ingredient has not been determined as yet. The patients included children and adults. The spots disappeared spontaneously after a few months. Uriburu, Vignale and Sommer had previously noted the phenomenon in Argentina and Uruguay.

Semana Médica, Buenos Aires

34: 897-956 (April 14) 1927

Exceptional Cases of Pneumothorax. R. A. Izzo and O. P. Aguilar.—p. 897.
Demelin Forceps. S. E. Bermann.—p. 911.
*Biologic Test for the Ovarian Hormone. E. de Chapeaurouge et al.—p. 929.
Insulin in Eczema. R. Barralt.—p. 932.
Etiology and Treatment of Appendicitis. M. Loubiere.—p. 933.
Periodic Vomiting with Acetonemia. J. Orrico.—p. 938.
The New Mother. A. I. Sosa y Sánchez.—p. 946.

Biologic Test for the Ovarian Hormone.—In the castrated rat, state Chapeaurouge and associates, rut ceases and the typical scales fail to develop again. However, if a follicular or ovarian extract, containing the hormone, is injected, rut appears within 100 hours. The shedding stage (heat) offers a specific biologic test for the ovarian hormone. The authors succeeded in preparing the hormone in a perfectly clear aqueous solution, thus confirming Zondeke, Brahm and Laquer's work and disproving Allen and Doisy's assertions.

Archiv für Kinderheilkunde, Stuttgart

81: 1-80 (April 14) 1927

Action of Ultraviolet Rays. H. Koeppe.—p. 1.
Gas Bacillus Infection Simulating Melena. E. Nedelmann.—p. 6.
Pyuria. R. Herbst.—p. 11.
*Quinine-Fast Liver Lipase in Serum in Congenital Syphilis. M. Frank and L. Schrötter.—p. 29.
Specific Dynamic Action in Children. W. Hilsinger.—p. 36.

Quinine-Fast Liver Lipase in Serum in Congenital Syphilis.—Frank and Schrötter found quinine-resistant lipase in the blood serum of infants with congenital syphilis with cutaneous manifestations. It was not always present with slight clinical changes in the liver.

Deutsche medizinische Wochenschrift, Berlin

53: 643-686 (April 15) 1927

Action of Roentgen Rays on Cells. W. Scholtz.—p. 643.
*The Blood After Injection of Water. E. Wollheim and F. Brandt.—p. 646.
*Intracutaneous Injections for Pain. F. Walinski.—p. 647.
Striatal Disturbances of Locomotion. S. Tannhauser.—p. 649.
p_H of the Cerebrospinal Fluid. K. Eskuchen and F. Lickint.—p. 651.
Bleeding Tendency from Nervous Exhaustion? O. Müller.—p. 655.
Vacuum Gastroscopy. W. Sternberg.—p. 656.
Protrusion of Pyloric Antrum. L. Alkan.—p. 656.
Treatment of Hemorrhoids with Alcohol Injections. H. Elsner.—p. 657.
Progressive Lipodystrophy. Haensel.—p. 658.
Diabetes in Pregnancy. Kronenberg.—p. 660.
Treatment and Manifestations of Syphilis. J. Barnewitz.—p. 661.
Ophthalmology in 1926. P. Junius.—p. 662.
History of Professional Problems. O. Stahl.—p. 666.
Surrender of Case Histories to Public Authorities. M. Rosenfeld.—p. 667.

The Blood After Injection of Water.—Wollheim and Brandt injected intravenously 10 cc. of distilled water or of a 0.2 per cent solution of dextrose. Except in grave cases of contracted kidneys, the blood became diluted in from one to two hours, the chlorides of the serum increased and the amount of circulating blood decreased by from 20 to 40 per cent (trypan red method). Normal blood pressure did not change, while increased blood pressure fell by from 20 to 40 mm. of mercury. These changes are similar to those following venesection. They observed permanent lowering of the blood pressure in four out of thirteen patients with essential hypertension and in two out of six patients with nephritis. The injections were given four times a week for from three to six weeks.

Intracutaneous Injections Against Pain.—Falinski injected 1 cc. of an iso-ionic solution (resembling Ringer's) intracutaneously at five points at least 2 cm. apart (0.2 cc. in each). The injections were repeated after from three to four days. He observed alleviation or disappearance of various pains in 90 per cent of his patients (neuralgia, ulcer of the duodenum, neurosis of the heart and myalgia).

53: 687-734 (April 22) 1927

Epidemiologic Research. F. Neufeld.—p. 687.
*Pituitary Extracts in Cholelithiasis. C. Garrè.—p. 690.
*Surgery of Pituitary Tumors. F. Krause.—p. 691.
*Surgery of Recurrence of Brain Tumor. V. Schmieden and H. Peiper.—p. 694.
Surgery of Chronic Peptic Ulcer. F. König.—p. 697.
Temporary Sterilization of Women. H. Sellheim.—p. 698.
The General Practitioner and Roentgen-Ray Treatment. Wintz.—p. 700.
Larvated Endocrine Disturbances. B. Kugelmann.—p. 702.
Technic of Synthalin Treatment. E. Mosler and W. Feuereisen.—p. 704.
Rickets and Ergosterol. F. Holtz.—p. 706.
Infectious Rheumatism. S. Gräff.—p. 708. C'td.
Experiments with Antivirus. B. Lange.—p. 714.
Insulin Production After Ligation of Pancreatic Ducts. G. Herxheimer.—p. 715.
Inhalation of Carbon Dioxide in Surgery. A. Dzialoszynski.—p. 716.
The Law Concerning Venereal Disease. Elwert.—p. 716.
Lick's Medical Mission. J. Schwalbe.—p. 717.

Pituitary Extracts in Cholelithiasis.—Garrè does not believe that it is possible to drive out a calculus from the gallbladder or cystic duct by injecting pituitary extract.

Surgery of Pituitary Tumors.—Krause decidedly prefers surgery to roentgen-ray treatment of tumors of the pituitary gland, especially because it is still uncertain whether the roentgen rays may not injure the chiasma. Decompression acts favorably upon all symptoms. He mentions a case in which a severe arterial bleeding compelled him to discontinue the operation after having merely cut into the capsule of the tumor. In spite of this, the patient's vision improved and the acromegalic symptoms and the impotence disappeared.

Surgery of Recurrence of Brain Tumor.—Schmieden and Peiper maintain that recurrent cerebral tumors should be extirpated, repeatedly if necessary.

Deutsche Zeitschrift für Chirurgie, Leipzig

200: 1-620 (March) 1927

Restoration of Voice After Operation on the Larynx. E. Kuster.—p. 1.
A Half Century of Fracture Treatment. H. Helferich.—p. 10.
*Operation of Brain Tumors. O. Hildebrand.—p. 16.
*Encephalitis and Its Consequences. Tilmann.—p. 26.
*Injury to the Skull from Electric Current. E. Ranzi et al.—p. 36.
Value of Iodized Oil Injection. Von Eiselsberg.—p. 53.
Nerve Regeneration, Jacksonian Epilepsy and Occupational Cramps. R. Lozano.—p. 60.
*Surgery of Pruritus. H. Kuttner.—p. 71.
Operations for Cleft Palate. E. Lexer.—p. 109.
*Denervation of the Heart. Enderlen and Bohnenkamp.—p. 129.
Arterial Venous Fistulas in the Development of Plexiform Angiomas. G. Perthes.—p. 141.
Closed Intrapulmonary Bronchial Cyst. P. Clairmont.—p. 157.
*Treatment of Bronchiectasis. J. H. Zaaijer.—p. 170.
*Origin of Pulmonary Emphysema. R. Nissen.—p. 177.
Operation for Pulsion Diverticulum of the Esophagus. M. Martens.—p. 206.
*Surgical Treatment of Gastric and Duodenal Ulcers. H. Haberer.—p. 212.
Invagination of the Stomach. V. Schmieden and H. Westhues.—p. 251.
Duodenojejunal Diverticulum Causing Acute Intestinal Occlusion. A. Krogius.—p. 273.
*Prognosis of Operation for Gallstones. W. Anschutz.—p. 284.
Active or Expectant Attitude in Gallstones Attack? R. Stich.—p. 302.
*Primary Chronic Appendicitis. E. Payr.—p. 307.
*Origin of Acute Appendicitis. C. Ritter.—p. 364.
Origin and Histology of Old Intra-Abdominal Fistulas. M. Gerulanos.—p. 388.
Radical Operation of Umbilical Hernia. H. Schloffer.—p. 398.
The Two or Three Layer Suture of the Abdominal Incision in the Middle Line. Kirschner and Melzner.—p. 410.
Diagnosis of Tumors of the Ureter. E. Key and Å. Åkerlund.—p. 428.
Surgical Treatment of Traumatic Contracted Bladder with Vesicovaginal Fistula. T. Naegeli.—p. 445.
*Treatment of Prostatic Hypertrophy with Injection of Animal Blood and Roentgen Rays. A. Hintze.—p. 450.
Treatment and Healing of Compound Fractures. F. Konig.—p. 476.
Early Stages of Osteitis Fibrosa. P. Frangenheim.—p. 484.
Injuries of the Crucial Ligaments of the Knee. A. Wittek.—p. 491.
Surgical Treatment of Severe Suppurations of the Knee. A. Lawen.—p. 516.
Rapidity of Tumor Growth. Guleke.—p. 524.
*Influence of Diet on Wound Healing. A. Herrmannsdorfer.—p. 534.
*Lead Poisoning from Retained Projectiles. Habs.—p. 584.
Fractional Hand Sterilization. R. Klapp et al.—p. 606.
My Method of Teaching Surgery. J. Dollinger.—p. 613.

Dangers and Difficulties of Operations on Brain Tumors.—Brain surgery does not present particular dangers as regards hemorrhage or infection, Hildebrand asserts, and the anesthetic risk can be greatly reduced by using local anesthesia, especially since anesthesia is needed only for the operation on the skull. The permanent results from operations on brain tumors are not, however, cheering. Neither gliomas nor sarcomas (whether the latter arise from the meninges or from the brain itself) can be removed without grave danger of recurrence. Roentgenotherapy after exposure is the best treatment. Peritheliomas or endotheliomas offer better prospects. A glioma situated in a ventricle (a very rare location) is circumscribed and may be removed entire, but in this case the primary danger of the operation is great. Fatal collapse not infrequently follows operation on tumors of the cerebellopontile angle, without a clear cause being assignable. The collapse is probably due to changes in intracerebral pressure, failure of the blood supply to the medulla oblongata or interference with the respiratory center. Attempts to remove these tumors, as also the more or less pedunculated or free tumors of the cerebellum should be made, in spite of the dangers of the operation. Hildebrand has operated on twelve cerebellopontile angle tumors, with 50 per cent mortality.

Encephalitis and Its Consequences.—Tilman believes that trephining should be done as early as possible in all acute cases, both to cut short the disease and to prevent sequelae. He reports briefly ten cases of encephalitis, in four of which postencephalitic epilepsy or paresis, of from seven to seventeen years' standing, was cured or improved by operation. He has observed that the disease is more likely to occasion epileptic symptoms when the focus is near the cortex. In deep seated processes, there is danger of perforation into the ventricle.

Skull Injury from Electric Current.—The case described by Ranzi, Mayr and Oberhammer is that of a man injured by an electric current while at work in an electric locomotive. The current entered the body above the right ear and passed out at the vertex, a little to the left. He was removed unconscious, but had recovered consciousness at the end of seven hours. The wounds were treated conservatively. In each the skin necrosis progressed and the bone became exposed. A month after the injury, epileptic attacks set in with paresis of the right side of the face and the right upper extremity. Four operations were performed, at which epidural, subdural and brain abscesses were opened and the diseased bone cleaned away. Streptococci and pneumococci were found in the pus from the abscesses in the brain. The patient died two months after the injury. On microscopic examination the bone showed rarefying, sequestrating osteomyelitis, the necrosis limited by granulating inflammation. The authors suppose that the electric current killed bone cells, which thus became a fit field for infection by extension from the suppurating soft parts. They advise active treatment, with early trephination in cases in which the bone necrosis progresses rapidly and intracranial complications are to be feared.

Surgery of Pruritus.—Total extirpation of the diseased region was performed successfully by Kuttner in two cases in which the pruritus was confined to the prepuce. Others have applied the principle to pruritus ani and pruritus vulvae with good results. Interruption of nerve conduction by injection of sodium chloride or of a local anesthetic by incisions designed to lift the skin from the subcutaneous tissue, by nerve section (personal case, pruritus auricularis, described and illustrated) and by resection of the nerve root is discussed. The literature contains a number of observations of operation on the sympathetic for relief of pruritus, but periarterial sympathectomy seems to have been tried only once, and then without sucess.

Experimental Denervation of the Heart.—In three dogs, the cardiac nerves together with the stellate ganglion were excised close to the heart. It appeared from the experiment that the extracardiac innervation of the heart is more extensive than the macroscopically visible nerves would lead one to suppose. At the end of a year, an extracardiac influence on the heart (other than by the body fluids) could be demonstrated. While cardiac insufficiency was not observable when the animals were at rest, it was apparent when they ran. Thyroidin was without influence on the denervated dogs, while in control animals it caused tachycardia. Two normal dogs fed on thyroidin died with emaciation, while the denervated dogs remained well.

Treatment of Bronchiectasis.—On a girl, aged 16, who had bronchiectasis of the lower lobe of the left lung, and in whom internal treatment had failed, Zaaijer first performed rib resection with removal of the periosteum and the intercostal musculature. The result was unsatisfactory. Exeresis of the phrenic nerve was then done, but without success. His next procedure was to expose the diseased lower lobe, free it from all attachments except at the hilus and isolate it with tampons ready for extirpation or resection at a later sitting. To his surprise, another operation was not necessary, the expectoration stopped entirely and permanently after fourteen days. Tamponade was continued, the lobe became smaller and smaller, the cavity diminished in size and the skin margins drew ever nearer to the deepest point of the cavity. A roentgenogram shows the lower lobe completely obliterated, and the upper containing air. Clinically the patient is entirely cured. Zaaijer proposes the following sequence of operations for lower lobe bronchiectasis, after any one of them cure may result, furthermore, each one lessens the danger of the following procedure: 1. Exeresis of the phrenic nerve. 2. Extensive rib resection over the disease focus, with removal of the periosteum and intercostal musculature. 3. Intrathoracic isolation of the diseased lobe by tamponade. 4. Incision, resection or extirpation of the diseased lobe.

Experimental Researches on the Origin of Pulmonary Emphysema.—Tracheal stenosis from tumor was imitated in animals by plugs of paraffin or wax introduced into the upper mediastinal space. This was followed by dyspnea on inspiration, so-called stenotic breathing. The changes caused by long continued breathing of this type were studied by Nissen and found to correspond to those of alveolar emphysema and true interstitial emphysema. Rigid enlargement of the thoracic space, from operation on the thoracic walls, did not lead to pulmonary emphysema. The results of the experiment thus spoke against the thoracogenic theory of the origin of emphysema. In animals in which large areas of the lung were excluded from function, a true interstitial emphysema developed in the functioning tissue after a considerable time. This compensatory emphysema is a consequence of chronically deepened breathing.

Operative Treatment of Gastric and Duodenal Ulcers.—Haberer finds that surgeons are no nearer than ever to unanimity on this question. He notes a recent tendency to conservatism on the part of some, notably, Bier, Kuttner and Payr. The late results of gastro-enterostomy cannot, however, be satisfactory, although it is the best of the indirect methods from the standpoint of occurrence of jejunal ulcer, and it has its place, especially in the hands of the inexperienced surgeon when working under difficulties on a patient in a critical condition. Pyloric exclusion should be abandoned, it does not accomplish any more than does gastro-enterostomy and it is followed by jejunal ulcer in a much higher percentage of cases. Haberer has had no personal experience with Balfour's cauterization or with Kraske's transgastric excision of the ulcer, but he does not consider them of value. Radical operation must remove the antrum and the pylorus. He does not recommend carrying the resection further toward the cardia. By antrum he means all that portion of the stomach which contains pyloric glands. The extent of the antrum varies in different stomachs. Resection of the lesser curvature, carried to the point where the trunk of the arteria gastrica sinistra approaches the stomach wall from the lesser omentum, should include it. The only correct treatment of jejunal ulcer is its radical resection. In chronically recurring hemorrhage from ulcer, operation should be performed before anemia has caused irreparable harm. In acute hemorrhage, conservative treatment is safer, unless ulcer has previously been diagnosed with certainty. Perforation should be operated on without delay. In covered perforation treatment should be expectant until the symptoms have receded.

Operative Prospects of Cholelithiasis.—Anschutz's statistics indicate that older persons can be operated on for gallstones without great danger, if the operation is done in the interval, i. e., when neither icterus nor fever is present. The dangers of the operation lie not so much in the age of the patient or the long standing of the disease as in retention of bile and acute infection. His mortality statistics for the interval operation show that the sharp rise attributable to age does not set in until the sixtieth year, twenty years later than would appear from the general statistics for gallstone operations. In operation during the attack, the danger increases greatly with age. The new internal methods of treatment should be studied by the surgeon, for use before and after operation. He believes them particularly useful in treatment of postoperative recurrence. The advances in functional and roentgenologic diagnosis are of great promise.

Primary Chronic Appendicitis.—Payr discusses at length this disease, the existence of which is in dispute. For his own part, and speaking strictly from a clinical standpoint, he regards stasis of the contents of the proximal portion of the large intestine (from enteroptosis, kinking or adhesions) with widening of the lumen and slight, superficial inflammatory changes in the mucous membrane of the appendix as evidence of chronic inflammation; he does not see the necessity of assuming previous severe bacterial infection in the crypts. Because of the absence of a typical anamnesis and of a uniform clinical picture, the diagnosis is often confused—hence the 40 per cent of cases in which appendectomy did not bring relief. The roentgen ray is a valuable aid in diagnosis. (Four pictures are reproduced.) The blood picture should be studied. Where the diagnosis lies between chronic appendicitis and ptosis, treatment appropriate to the latter should solve the problem. Massage and athletics may be used as provocatives to clarify the diagnosis. Surgeons are disagreed as to the advisability of operation. Payr holds to the middle path, but counsels that every diagnostic means be exhausted before resorting to surgery. The advisability of removing the appendix on the occasion of other operations is discussed. Here, also, Payr avoids extreme views.

The Origin of Acute Appendicitis.—Ritter believes that in typical acute appendicitis gangrene precedes suppuration, that the latter is nature's effort to get rid of the dead tissue. He sees the origin of the gangrene in a defect of the mucous membrane caused by the friction of a fecal concretion, which has, perhaps, disappeared. Whether the next step in the process is the work of toxins or of bacteria, is uncertain; the latter seems more probable to Ritter.

Treatment of Hypertrophy of the Prostate with Injection of Animal Blood and Roentgen Rays.—Hintze describes the conservative treatment of aged patients with hypertrophied prostate in use in Bier's clinic. Series of roentgen-ray treatments are given, and between the first and second of each series 5 cc. (reduced to 3 or 2 cc. when the series is repeated) of ox, hog or sheep blood is injected slowly into the prostate, half of the dose into each half of the organ. The patient is in the lithotomy position during the injection and is afterward put to bed. The resulting pain is usually not great. The irradiations are given at two or three day intervals and number about eight. On each occasion two fields are exposed, a transverse field above the symphysis and a perineal field (hard filter, diameter of field 10 by 15 cc., focal distance 30 cm.), in case of vesical fistula above the symphysis, a vertical field, 6 by 8 cc., on each side of the median line, is irradiated. For each field the dose applied to the skin is 0.1 of the erythema dose. On the first sitting of the series the dose is doubled. In most cases, not more than three series are required. Nineteen cases are reported. Spontaneous micturition was achieved in all but three patients; these three had accustomed themselves to self-catheterization and could not be persuaded to give up the habit.

Influence of Diet on the Buffer Capacity of the Blood and on the Healing and Bacterial Content of Granulating Wounds.—This article, to which Sauerbruch contributes an introduction, represents researches carried on in the surgical clinic at Munich over a period of several years. The modern conception of acidosis and the physiologic regulation of the p_H of the blood are discussed and clinical experiments with diets are described. Herrmannsdorfer found that the acid-base metabolism of patients with wounds differs from that of healthy persons. Both locally, at the seat of inflammation, and in the blood and other body juices the reaction is displaced toward the alkaline side. The alkali reserve, however and therewith the buffer capacity of the blood, is lowered in wound healing. The buffer substances in the blood are diminished more in the case of suppurative than of aseptic wounds, the lowest values, however, are found after the infection has been overcome. It is evident that general, "compensated" acidosis and local, true acidosis should be looked upon as measures of defense and not as dangerous phenomena of intoxication. An acid diet lowers the buffer capacity of the blood and the p_H of the urine, of the wound secretion and of the saliva. An alkaline diet has the opposite effect. In patients on an alkaline diet, the conditions in the wound became worse, the suppurative processes extended and there were flare-ups in old foci. The secretion increased and the wound showed no tendency to diminish in size. With an acid diet the wound became smaller, the secretion diminished or ceased, the granulations took on a healthy appearance. With an alkaline diet the bacteria increased in number and variety. Besides streptococci and staphylococci, *B. proteus*, *B. pyocyaneus*, pseudodiphtheria bacilli, anaerobes, spore-bearing bacteria and *Sarcinae* were abundant. In the wounds of patients on an acid diet, the number and variety of bacteria decreased greatly; bacteria disappeared from the circulating blood of two gravely septic patients when the latter were placed on an acid diet.

Lead Poisoning from Retained Projectile.—Habs quotes two cases in which a splintered projectile or a bullet, remaining in the body, gave rise to lead poisoning years later. The first case was from the Franco-Prussian war; forty years intervened between the entrance of the lead into the body and the appearance of symptoms. The second case dated from the late war, and Habs notes that lead poisoning from bullets received during this war are now becoming due and should be watched for by the physician. The literature is reviewed for similar cases and the chemical, pathologic and biologic aspects are considered. Internal remedies are of no use until the lead has been removed. Thereafter, potassium iodide is recommended.

Jahrbuch für Kinderheilkunde, Berlin

115: 315-388 (April) 1927

Familial Insufficiency of the Pancreas. A Soecknick and F. Thoenes —p 315.
*Effect of Treatment of Congenital Syphilis on the Intelligence K. Scheer and M Stieler.—p 332
*Plasma Proteins in Scarlet Fever. B Steiner.—p 348
Idem I. A Tudos and P. Kiss —p 356
Endocrine Formula in Children I M Fertik et al —p 363
Roentgen Ray Sensitiveness of Infant's Skin K. Schrutz —p. 371.

Effect of Treatment of Congenital Syphilis on the Intelligence.—Scheer and Stieler found that energetic treatment of children suffering from congenital syphilis not only improved the general prognosis but also increased the percentage of mentally normal children.

Plasma Proteins in Scarlet Fever.—Steiner found a large amount of fibrinogen in the plasma at the onset of scarlet fever. This amount decreased gradually in uncomplicated cases. It increased in complications, sometimes preceding them by two days.

Klinische Wochenschrift, Berlin

6: 625 672 (April 2) 1927

Iodine and Action of Thyroid. I. Abelin —p. 625.
*Active Substances in Muscle. G Embden —p. 628
*Insulin Thyroid Antagonism M. Rosenberg —p 631.
*Peripheral Action of Epinephrine E Freudenberg —p. 634.
*Cataract from Avitaminosis? M. Goldschmidt —p 635.
Syndrome of Syphilis. S Bergel —p 637.
Biochemistry in Skin Diseases. Stumpke and G. Soika —p 639
Kinetic Work of Arteries. Hasebroek.—p 645.
Hemoglycosedimeter. E. Kaufmann —p. 648
"Open Puncture of Pleura" E. Brieger.—p. 650
Reply. E Leschke —p 651.
*Photosensitized Striated Muscle. F. Lippay —p. 651.
*Endothelial Cells in Sepsis. J. Hammerschmidt —p 651.
Paraffinoma of the Breast G Körbler.—p 652.
Infections of the Urinary Tract in Children. K Kaspar —p 653.
The Psychiatric Dispensary. W. Zeller.—p 655.

Active Substances in Muscle.—Embden finds that lactacidogen, which is identified now as hexosemonophosphoric acid, is split suddenly in the beginning of a muscular contraction. Since it is more dissociated than phosphoric acid, the hydrogen ion concentration decreases after the cleavage. A further increase in alkalinity is due to a simultaneous splitting of adenosin-phosphoric acid into ammonia and inosinic acid. Both substances are resynthetized, unless the muscle is overworked. The production of lactic acid occurs after the contraction and counteracts the alkalinity produced by the two processes mentioned above. It also enhances the restitution of lactacidogen. Embden believes that the lowered hydrogen ion concentration causes the contraction of the muscle. This is an exothermic physical process and is followed by chemical processes which recharge the muscle with energy. He intends to look in the nervous system for nucleotids as substratums of the excitation process

Insulin-Thyroid Antagonism.—Rosenberg found that insulin does not markedly counteract a glycosuria induced by administration of thyroid or by exophthalmic goiter The point of attack of both substances is apparently different Nevertheless it is possible, by administration of thyroid to a diabetic patient, to provoke a glycosuria which can be controlled by insulin.

Peripheral Action of Epinephrine.—Freudenberg shows that intramuscular injection of epinephrine enhances locally the tetany provoked by hyperpnea and administration of sodium bicarbonate.

Alleged Cataract from Avitaminosis.—Goldschmidt repeated with Yoshimoto the experiments made by Szily and Eckstein. Differing from these authors, he believes that the cataract found in the rats is due solely to exposure of the eyes of the rats to a lower temperature. It disappears when the litter is warmed by the mother rat. The diet only prolongs the period during which this phenomenon can be produced in young rats.

Photosensitized Striated Muscle.—Lippay observed twitching and contracture of photosensitized muscles on exposure to light Hematoporphyrin produced a stronger sensitization than any of the other substances that he used. Muscles thus sensitized contracted even in diffuse daylight.

Endothelial Cells in Sepsis.—Hammerschmidt isolated a strain of bacilli that is extremely virulent for mice. It causes scarcely any macroscopic changes, but all the endothelial cells of the blood vessels and the Kupffer cells are crammed with the bacilli

Medizinische Klinik, Berlin

23: 463 500 (March 31) 1927

The Hormones of the Ovary and of the Anterior Lobe of the Pituitary. B Zondek —p 463
Duration of Action of Alcohol. G Rosenfeld —p 466
Increased Frequency of Pernicious Anemia V. Schilling —p 467.
Diagnosis of Diseases of the Throat G Claus —p. 472.
Psychotherapy M. Serog —p 474
Lisping L Stein —p 476
*Rupture of Lungs from Dyspnea K. Werwath —p 477
Foreign Bodies in the Gastro Intestinal Tract. P Kissinger —p 479
Leukocytes in Pernicious Anemia J Neuburger —p 480.
Tuberculosis, Enlarged Thyroid and Heart Trouble Due to Military Service R. Menzel —p 485
Extrapulmonary Tuberculosis P. Tachau Supplement —pp 1-38

Rupture of Lungs from Dyspnea.—Werwath's patient had a laryngeal phlegmon. During the first stage of a tracheotomy (before opening the trachea) the patient lost consciousness, developed a mediastinal emphysema, and was kept alive by artificial respiration. The diagnosis of spontaneous bilateral pneumothorax was made the next day His life had been saved by partial adhesion of one lung

Münchener medizinische Wochenschrift, Munich

74: 531 570 (April 1) 1927

Protein Injection and Innervation of the Stomach. E. F. Muller and W F Petersen —p 531 Ct'd
Early Rash in Tuberculous Infection of Children. A. Uffenheimer —p 535
Curare in Parkinsonian Rigidity V Kairiukschtis and V Kutorga —p 537
Irritation of Vegetative System in Appendicitis R. Klotz —p 538
*Blood Sedimentation in Thirst S Ruf —p 542.
Pathologic Skin Reflex H Praetorius —p 543
Current Potential in Superficial Roentgen Irradiation V. Wucherpfennig —p 544
Roentgen Ray Picture of Gallbladder Diverticulum T Barsony —p. 546
Obstetric Malpractice A. Doderlein —p 546
*Treatment of Putrid Bronchitis Litzner —p 547
From a Medical Samaritan to a Medical Serf M Nassauer —p 548
The Physician as Guardian of the Nation s Health E. Abderhalden —p 550

Blood Sedimentation in Thirst.—Ruf observed increased sedimentation speed of erythrocytes during thirst

Treatment of Putrid Bronchitis.—Litzner's patient recovered from putrid bronchitis after six injections of neoarsphenamine given at ten to fourteen day intervals.

74: 571 618 (April 8) 1927

*Synthalin P Morawitz —p 571
*Antimalarial Action of Quinine G Giemsa —p 574.
Bucky's Borderline Rays H Kirsch —p 578.
*Duodenal Tubage in Typhoid N Henning and A Lechner.—p. 579
*Dangers of Hysterography K Hellmuth —p 583
Surgical Dressings H Schmidt —p 583.
Enhancement of Suppuration by Mercury Stappert —p. 584.
Psychogenic Vomiting K Ochsenius —p 585.
"Problems of Epidemiology" O Lentz —p 585.
"Undernourished Children" Strauss —p 588
*Protein Injections and Innervation of the Stomach E. F. Muller and W F Petersen —p 588 C'en
Lister and Germany M von Gruber —p 592 C'cn
Psychic Injury to Surgical Patients K. Mermingas —p 593.
"Physician and Medical Man" E Liek —p 594
Marriage and the Family in Soviet Russia. A. Dworetzky —p 597.

Synthalin.—Morawitz observed only a few therapeutic failures with synthalin. Nevertheless he acquired the impression that it may injure the liver Urobilinuria appears frequently. Besides this, the blood sugar level does not fall as easily as with insulin. He confirms the fact that the digestive disturbances from synthalin may be counteracted by simultaneous administration of biliary salts.

Antimalarial Action of Quinine.—Giemsa believes that quinine is absorbed by the endothelial cells and transmitted by them to the parasites.

Duodenal Tubage in Typhoid.—Henning and Lechner found the bacilli in the bile in nineteen out of thirty-six typhoid and paratyphoid B patients. The method has no practical advantage over other bacteriologic methods.

Dangers of Hysterography.—Hellmuth's patient died from diffuse peritonitis after intra-uterine injection of 3 cc. of a contrast fluid for the purpose of hysterography. There had been no sign of suppuration of the tubes, which would have served as a timely warning against the injection.

Protein Injection and Innervation of the Stomach.—Müller and Petersen found that the stomach dilates and its movement ceases during the chill following an intravenous injection of a vaccine, peptone or protein. External application of cold, which also produces a chill, causes the same disturbance of the stomach. Periarterial sympathectomy made on the extremity exposed to the cold prevents this reflex. If the toxicity of the injected substances is great, the secretion of the stomach increases ten to twenty times, simultaneously with the dilatation, but does not necessarily contain any hydrochloric acid. Nausea and vomiting are common in this stage. This reaction is most pronounced after injections of a typhoid and colon bacillus vaccine or of living colon bacilli. They point out that the protein shock acts on the stomach indirectly by way of the nervous system. The action of foreign proteins occurs after their penetration into the tissues, in which they provoke a reaction. The reaction of the vegetative nervous system sometimes lasts longer than the cellular reaction. In the treatment of gastric ulcer, only an intramuscular injection of almost indifferent proteins (milk) should be used, which is sufficient for relaxation of the tonus. With more potent proteins and vaccines, and other ways of injection, the secretion of the stomach would increase. The action of the liver is also stimulated in the latter case and the temperature of the body rises, because the opposite reflex (vasoconstriction) occurs in the skin and prevents dissipation of the excess heat.

74: 619-658 (April 15) 1927

Surgery of Pulmonary Tuberculosis. F. Sauerbruch.—p. 619.
*Constitution and Tuberculosis. Naegeli.—p. 621.
Tuberculin in Treatment and Diagnosis. H. Selter.—p. 625.
Photochemical Significance of the Striae of Pregnancy. A. Mayer.—p. 627.
*Specific Adsorption Treatment. H. Bechhold and L. Keiner.—p. 631.
Dangers of Fencing, Boxing and Similar Sports. C. von Bramann.—p. 634.
Arsphenamine and Neurosyphilis. L. Spitzer.—p. 636.
Forward Shifting of the Shoulder and Gymnastics. Hasebrock.—p. 638.
"Blood Groups in Munich." S. Wellisch.—p. 639.
Idem. T. Fürst.—p. 640.
Cathodic and Roentgen Rays. A. Sommerfeld.—p. 640.
*"Christmas Fever." Stappert, Jr.—p. 642.

Constitution and Tuberculosis.—Naegeli declares that there unquestionably exists a difference in virulence in different strains of the human type of the tubercle bacillus. The outcome is decided by the constitutional differences of the patient. Exogenic conditional factors are most important, but genotypic characters also play a rôle. Since practically everybody becomes infected with tuberculosis, he believes that it would be better to speak of a predisposition to lethal tuberculosis than of a predisposition to tuberculosis in general.

Specific Adsorption Treatment.—Bechhold and Keiner discuss the purpose of adsorption treatment. Bechhold suggested distinguishing between the adsorption capacity (for dissolved substances) and the adhesion capacity (for corpuscular elements, such as bacteria). The ideal adsorbent should have a great power of adhesion and a selective power to adsorb toxic substances, but not digestive enzymes. They tested some combinations, which gave encouraging results.

"Christmas Fever."—Stappert uses this term for the numerous cases of malingering around the Christmas holidays. Since the social insurance premium is paid regardless of holidays, the malingerer receives as much money as if he were working.

Wiener klinische Wochenschrift, Vienna

40: 481-512 (April 14) 1927

*Diseases of the Tonsils in Children. F. Hamburger.—p. 481.
Antivirus. H. Lehndorff and M. Brumlik.—p. 483.
Action of Ergotoxin on the Heart. H. L. Otto.—p. 486.
*Toxins of Sepsis Streptococci. E. Herrmann and H. Heidler.—p. 488.
Healing in Pneumothorax Lung. F. Fleischner.—p. 492.
Protracted Intravenous Infusion of Sugar. K. Hutter.—p. 493.
The Skin as Organ of Defense. E. Finger.—p. 493. Con.
Surgical Indications in Diseases of the Ear. G. Alexander.—p. 496.
Biliary Type of Necrosis of the Pancreas. P. Walzel.—p. 498.
Psychology and Psychiatry. R. Allers. Supplement—pp. 1-20.

Diseases of the Tonsils in Children.—Hamburger points out that in inflammations of the pharyngeal tonsil the swollen lymph nodes are localized farther back (underneath the sternocleidomastoid) than in ordinary tonsillitis. Diphtheria should be assumed with a bloody purulent discharge from the nose, and is practically certain if there are also white spots in the pharynx. A tonsillitis plus hoarse voice suggests laryngeal diphtheria and should be treated accordingly, regardless of the results of a bacteriologic examination. An open mouth and oblique position of the head suggest pharyngeal abscess. It is well to delay, in the incision of a tonsillar abscess, unless the pus may be seen underneath the surface. He would not torture a child with tonsillitis by wiping off the tonsils. Such a procedure is only to be recommended, if coughing persists after whooping cough.

Toxins of Sepsis Streptococci.—Herrmann and Heidler had good results in treatment of sepsis with antitoxic serums obtained by a method similar to Dick's.

40: 513-544 (April 21) 1927

Problem of Sepsis. P. Saxl.—p. 513.
Aortic Hypertension. S. Wassermann.—p. 517.
Prevention of Scarlet Fever. E. Reich and J. Teichmann.—p. 521.
Diseases of Menisci. F. Mandl.—p. 522.
Poisoning by Plasmodin. K. P. Eiselsberg.—p. 525.
*Quinine in Diabetes. A. Löw and R. Pfeiler.—p. 526.
"Backache in Women." E. Meisels.—p. 527.
Writing Prescriptions. A. Mayrhofer.—p. 528.
Diet and Life Expectation. O. Porges. Supplement.—pp. 1-6.

Quinine in Diabetes.—Löw and Pfeiler found a lowered blood sugar and, as a rule, a decreased amount of ketone substances after intravenous injection of 0.5 Gm. of quinine.

Zeitschrift für Krebsforschung, Berlin

24: 489-607 (April 8) 1927

Insulinoid in Cancer Tissue. A. H. Roffo and L. M. Correa.—p. 489.
Epithelial Proliferation in Aseptic Inflammations. W. G. Garschin.—p. 492.
Pyrogenic Action of Cancer. J. von Darányi.—p. 512.
*Heterotransplantation of Malignant Tumors. G. Roskin.—p. 515.
Action of the Electric Current on Cancer Cells. E. Delbanco.—p. 524.
*Action of High Oxygen Pressure on Mouse Cancer. A. Fischer et al.—p. 528.
*Cancer Treatment as Physico-Chemical Problem. E. B. Andersen and A. Fischer.—p. 563.
*Natural Immunity to Rous Sarcoma. A. Fischer.—p. 580.
Campaign Against Cancer in Jugo-Slavia. J. Cholewa.—p. 604.

Heterotransplantation of Malignant Tumors.—Roskin obtained growth of chicken sarcoma in mice that had been injected with ferrum oxidatum saccharatum. A piece of this tissue taken on the sixtieth day, and regrafted into fowls produced a sarcoma, but of a somewhat slower growth. Heterogenetic transplantation of adenocarcinoma of mouse or man into fowls induced the formation of tumors that resembled lymphosarcoma.

Action of High Oxygen Pressure on Mouse Cancer.—Fischer, Buch Andersen, Demuth and Laser kept cancer mice for twenty-two hours in oxygen under a pressure of 1.6 atmospheres or for fourteen hours under 2 atmospheres. Certain of the animals were injected besides with various preparations intended to act as catalyzers of oxidation. Some of the animals were cured by the oxygen alone, but the results were considerably improved by the combined treatment (around 20 per cent improvement). They emphasize the fact that it is a long way from these experiments to attempts to influence cancer in man.

Cancer Treatment as Physico-Chemical Problem.—Buch Andersen and Fischer discuss the physical and chemical aspects of cancer therapy, especially with oxygen. They mention similar theoretic possibilities with other gases, especially hydrogen.

Natural Immunity to Rous Sarcoma.—Fischer found that Rous chicken sarcoma may be cultivated in the plasma from naturally immune chickens or from birds or rabbits that have been immunized. All these immune serums inhibit in vitro the effect of the filtrable agent of Rous sarcoma. The plasma of about 40 per cent of chickens has this property normally. The transplanted sarcoma takes in such animals only if its cells are not destroyed. This shows that humoral immunity alone is not sufficient to prevent the growth. About 1 per cent of the chickens are, apparently, absolutely immune—against the filtrable agent of the sarcoma as well as against the cells.

Zeitschrift für Kreislaufforschung, Dresden

19: 233-264 (April) 1927

Primary Sarcoma of the Heart. A. Matras.—p. 233.

Klinicheskaya Meditsina, Moscow

5: 73-140 (Jan.) 1927. Partial Index

Alcohol in Nerve Surgery. V. I. Razumovskiy.—p. 73.
Treatment of Posttyphoid Endochondritis. S. K. Solovieff.—p. 91.
Exploration of Erythropoietic Activity of Bone Marrow. N. A. Shvarobovich.—p. 98.
*Method for Treatment of Ischuria. E. I. Kvater.—p. 117.

New Method of Treating Postoperative or Postpartum Retention of Urine.—Kvater suggests a method which he has used for the last two years in cases of retention of urine, after operation or childbirth. The desire for micturition is absent, although the amount of the urine in the bladder is large. This condition is due to atony of the detrusor urinae muscle associated with spasm of the sphincter vesicae. The treatment is based on the theory that increase of intravesical pressure may cause the bladder to contract. The method is as follows: when the retention of the urine has persisted for twelve hours, the bladder is catheterized and a disinfecting liquid is introduced. The quantity of the liquid must exceed by from 150 to 200 cc. that of the urine removed. The liquid is usually spontaneously expelled, and normal micturition then takes place. If the first injection remains without effect, from 60 to 100 cc. more of the liquid is introduced. Rupture of the bladder did not occur in any case. The method succeeded in cases in which other measures failed.

Profilakticheskaya Meditsina, Kharkov

6: 1-195 (January) 1927. Partial Index

Etiology, Epidemiology, Prophylaxis and Serotherapy of Scarlet Fever. S. I. Zlatogoroff.—p. 9. C'td.

6: 1-174 (February) 1927. Partial Index

Etiology, Epidemiology, Prophylaxis and Serotherapy of Scarlet Fever. S. I. Zlatogoroff.—p. 12. C'cn.
*Resistance of Erythrocytes to Quinine. A. Voinik.—p. 20.

Lytic Action of Quinine on Erythrocytes in Malaria.—Voinik refers to his previous researches, showing that the favorable action of quinine in malaria consists in dissolution of the damaged erythrocytes and consequent falling off of the plasmodia. The plasmodia are then destroyed by the corresponding lysins of the blood serum. He further studied the influence of various substances and conditions on the hemolytic property of quinine. Test tubes were filled with a 0.5 per cent solution of sodium chloride mixed with quinine hydrochloride, in various concentrations. A drop of the blood to be examined was added to the tubes. There was evidence that in normal conditions the erythrocytes of children are less resistant to the action of quinine than are those of adults. In malaria the hemolytic action of quinine is in inverse proportion to the content of sodium chloride in the blood. Rise of temperature increases the hemolysis, thus justifying the administration of quinine three or four hours before the expected paroxysm of malaria; alcohol and ammonia enhance the hemolysis considerably. Stress is laid on the fact that in treatment of malaria the amount of sodium chloride in the blood should be taken into consideration.

Vestnik Mikrobiologii i Epidemiologii, Saratov

6: 3-135 (1927). Partial Index

Scarlet Fever Streptococci Isolated in the Epidemic of 1925-1926. E. Korobkova and S. Mitin.—p. 19.
*Influence of Cytotoxic Serum on Development of Cancer. A. Bogomolets and I. Neiman.—p. 33.
Note on Experimental Gonorrhea. Z. Osipova and A. Ukhin.—p. 86.

Stimulating or Blocking the Reticulo-Endothelial System and Its Effect on Development of Cancer.—Bogomolets and Neiman inoculated 342 mice with an emulsion of adenocarcinoma. A series of these animals were injected simultaneously with cytotoxic rabbit serum, another series with ordinary rabbit serum. The controls were inoculated only with the emulsion. Large doses of any of the serums were found to favor the development of cancer, probably by paralyzing the active macrophages in the connective tissue. Small doses of serum stimulated the resistance of the connective tissue, reducing markedly the percentage of tumors that developed in the animals. The prophylactic action of the ordinary serum was much weaker than that of the cytotoxic serum. The "cancer diathesis" consists in reduced defense of the organism against the disease, determined by the condition of the connective tissue. Researches are being carried on to test the curative action of the cytotoxic serum, also to establish the histologic changes induced by the serum in the mesenchyma.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

71: 1413-1536 (March 19) 1927

Clinical Results with Synthalin. B. Sybrandy.—p. 1418.
*Bleeding Nipple. J. G. Kopp.—p. 1431.
*Swine Erisipelas in Man. C. Schaap.—p. 1447.
*Bilateral Absence of the Thumb. A. J. P. van den Broek.—p. 1452.

Bleeding Nipple.—Kopp analyzes twenty-two cases of bleeding nipple. Pathologic examination was made in twenty, and showed that in nine the cause was intracanalicular papilloma, in nine others chronic cystic mastitis, in one a combination of the two, and in one precarcinoma. In sixteen the secretion from the nipple was the only symptom. In nearly all it resembled venous blood in appearance; in some the discharge had at first been serous, and had gradually become bloody. He does not approve of conservative treatment, but he does not believe that the typical radical operation, as for carcinoma, is necessary, unless, of course, carcinoma is suspected. In younger women, if swelling is absent, he exposes the posterior surface of the mammary gland by a latero-inferior incision, and, according to the information obtained by inspection and palpation, performs either partial extirpation or subcutaneous enucleation of the gland. In older patients, he advises removal of the entire breast.

Swine Erysipelas in Man.—Schaap has had three cases of swine erysipelas in human beings in the last two years. In all the infection could be traced to the slaughtering of a sick hog. The animal responsible for the last two cases had been sick only one day, and was thus in the prodromal stage. In all three cases cure was effected by serum from animals with the disease. In one patient, in whom the disease had reached the generalized stage, 40 cc. was injected; in the other two, treated earlier, 20 cc.

Bilateral Absence of the Thumb.—In the case here reported, there were no signs that even a rudimentary thumb had ever existed on either hand. Otherwise, the skeleton did not present any congenital abnormalities. The subject, a girl, aged 23, is able to do all kinds of housework, writing and sewing as well and as rapidly as persons with normal hands.

Hygiea, Stockholm

89: 273-320 (April 15) 1927

*Chemical Warfare. H. Westermark.—p. 273.
*Strumectomy. A. Troell.—p. 290.
A Statistical and Serologic Study of Cancer. L. Wolff.—p. 312.

The Most Important War-Gases and the Diseases Caused by Them.—After a short historical outline Westermark divides the gases into different groups, each of which causes its special disease with characteristic symptomatology and anatomic pathology and demands its own treatment The two most important are the lung-irritating and the blister-causing gases To the first group belong chlorine, chlorpicrine and phosgene They cause edema of the lung The hemoglobin may be increased to more than 120, the red blood cells to over 9,000 000 To prevent the pulmonary edema emetine chloride should be given subcutaneously Stimulants, such as caffein and camphor are indicated The next group is the vesicant To this belong mustard gas and "Lewisite" The first was used during the World War The last has not yet been employed in war Mustard gas is very poisonous, even in small amounts and cannot be detected by the sense of smell It easily penetrates ordinary cloth The pathologic-anatomical changes are many 'Lewisite" is a heavy oily fluid It is resistant A fatal dose on the skin is 1 5 cc it causes burns and arsenic poisoning As a remedy benzyl alcohol, 100 Gm , ethyl alcohol 95 Gm, and glycerin, 4 Gm, is recommended

Strumectomy—Troell reviews his total material of 337 cases Of these, 193 were clinically toxic and 144 atoxic The mean value of the basal metabolic rate on admission of the patient to the hospital was in cases of diffuse exophthalmic goiter approximately + 55 per cent, the corresponding figure for adenomatous toxic goiter was + 34 per cent Of patients with diffuse exophthalmic goiter in whom the basal metabolic rate was determined it was + 50 per cent on admission in forty five more than 50 in forty nine in thirty-one cases it was not determined before operation By treatment with Lugol's solution insulin or bromium-quinine-phosphorus calcium, and rest in bed it was considerably reduced before the operation was undertaken None of the cases with a basal metabolic rate of + 30 per cent or less, died from the operation Of the patients with toxic goiters about 85 per cent recovered completely after the operation In patients with diffuse goiter preoperational treatment with Lugol's solution is valuable for temporarily reducing the thyrotoxicosis Should rest in bed in a hospital and treatment with Lugol's solution, controlled by determinations of the basal metabolism and weighing not result in improvement in the basal metabolic rate, body weight, tachycardia, etc , in, at the most four weeks, the case is probably so highly toxic as to exclude the possibility of a good result from thyroidectomy

Norsk Magazin for Lægevidenskapen, Christiania

88 233 344 (April) 1927

Suspension Stability of the Blood in Tuberculosis of the Lungs O Stub —p 233
*Tuberculosis of the Knee Joint R Ingebrigtsen —p 271
*Influence of Malaria on Gonorrhea J Cammermeyer —p 280
*Cholelithiasis F Roscher —p 281

Mobilization of Tuberculous Ankylosis of the Knee Joint.—The patient was a woman, aged 21 Both knee joints were bent at a right angle, in the right there was bony ankylosis, in the left fibrous ankylosis The right ankle was stiffened at an acute angle She could move only on crutches The angulation of the right extremity was corrected by resection the right foot was placed in correct position by astragalectomy and the ankle joint was given normal mobility The left knee was mobilized, the fibrous deformities and a thin section from the articular cartilage were removed and the articular surfaces placed in correct position and covered with free fascia lata The result was good The patient can walk with a cane No complications have occurred in three years In the literature eight cases of attempted mobilization of a knee joint, ankylosed in the course of tuberculosis, are reported, with good results in six Ingebrigtsen thinks that mobilization is indicated if one or both joints are ankylosed in flexion, if the tuberculous process has stopped and the general health of the patient is good

Influence of Malaria on Gonorrhea—Cammermeyer assumes that the influence of malaria upon gonorrhea is only temporary and that it is not a specific remedy for gonorrhea, its occasional temporary influence is attributable to the height of the fever

Two Cases of Multiple Gallstones—Case 1 was in a woman, aged 47 Six years ago she began to feel pains under the right breast Epigastralgia followed During the following year she felt well, but had to be on a diet Aug 30 1926, she had an attack of severe pain This recurred on September 21, and three large stones were found in the feces On the following days several stones appeared in the stool and on October 14 sixty-two stones were found The total number was 190 On October 20 the gallbladder was removed, it was as large as a goose egg and contained about 100 stones and some normal bile The cystic duct was wide open The hepatic duct was also open, it did not contain stones Case 2 was in a woman, aged 43 This patient had had indigestion for about ten years In October, 1926 she suffered from severe pains in the epigastrium On October 19 thirteen stones of different sizes were found in the feces and on the 27th of the same month forty six stones The urine did not contain bile or albumin The patient has been well since and there has not been a recurrence of gallstones in the stool

Svenska Lakaresallskapets Handlingar, Stockholm

52 41 104, 1926

Thirty Years' Practice of Massage J Lindslog —p 81
*The Bolz Reaction K Loberg —p 9[illegible]

The Bolz reaction (the Acetic Anhydride-Sulphuric Acid Test.)—Loberg examined 55 spinal fluids, eleven of which belonged to the dementia praecox group The reaction was positive in all He will not express any decided opinion on a matter of which Bolz is quite sure, i e, that the intensity of the reaction parallels the activity of the syphilitic process As the reaction was also usually positive in relatively acute cases of dementia praecox in other experiments, Loberg believes that there is a causative connection Through the brain biochemism, which has certainly suffered grave injury in the active stages of the disease, it is likely that some of the abnormal products are washed down in the cerebrospinal fluid and that something of this nature is the basis of the reaction That the same substances appear in paralysis and in neurosyphilis, possibly also in other diseases of the brain, does not contradict this theory The same abnormal products may be formed by various diseases, of which the diazoreaction is a typical proof

Ugeskrift for Læger, Copenhagen

89: 313 338 (April 21) 1927

*Fermentative Dyspepsia H C Gram —p 313
*Treatment of Diabetes with Synthalin J N Lorenzen —p 322
A New Method of Staining Blood Films A Nyfeldt —p 325
Criminal Psychiatry A Wimmer —p 327

89: 339 364 (April 28) 1927

Injury by Electricity J Ieg —p 339
Chronic Encephalitis H I Schou —p 343
The Quantity of the Excreted Urine E Faber —p 351
Problems of Social Medicine J Kuhn —p 355

Fermentative Dyspepsia and Its Chemical Picture.—Gram carried out a series of investigations, but these do not give any positive answer as to the etiology and the pathogenesis of fermentative dyspepsia A rational dietetic treatment effects, as a rule, considerable improvement and often apparent recovery Medical treatment plays only a secondary part All starches should at first be forbidden, after a time they may gradually be added to the diet If there is diarrhea tannalbin or bismuthsubsalicylate should be given, if constipation, liquid petroleum and oil enemas

Treatment of Diabetes with Synthalin—Lorenzen is of the opinion that in its present form synthalin cannot be recommended, as the effect of the doses that can be given is too slight and the inconveniences are greater than the advantages In mild cases, that can be treated by diet alone, synthalin is not needed and in severe cases it cannot replace insulin

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. 89, No. 4 Chicago, Illinois July 23, 1927

RICKETS

A BRIEF SUMMARY, WITH REFLECTIONS *

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The course followed by the ship of pediatrics is changing. In many schools of medicine pediatrics now ranks with internal medicine, surgery and obstetrics as a major subject of instruction; in other words, it is no longer a so-called minor specialty.

The fact that pediatrics is receiving more and more consideration in the curriculum of the schools of medicine indicates clearly that its progress and importance are being appreciated and utilized. And the marked and rapid increase in the number of men devoting themselves to this field also shows that the public appreciates the value and need of pediatrics.

Physicians trained in pediatrics today are general practitioners of the best type, rather than specialists in the narrow sense, as they formerly were. In addition to caring for the physical ills of infants and children, the pediatrician of today is also concerned with the proper training of the child and with the prevention of disease. No field in medicine offers greater opportunities for the useful and effective application of preventive medicine, a statement today accepted as sound both by the public and by the government, whether it be local, state or federal.

But the question of the present and future responsibilities and opportunities of pediatrics has been so recently and so admirably discussed by former chairmen of this section, among them Veeder, Helmholz and Huenekens, that there is no need of my proceeding further in this direction. Therefore, I have chosen another topic for the subject of my address, namely, rickets, whose consideration, however brief, I hope will be of interest and of value.

Since Kurt Huldschinsky brought forth his fundamental and epoch-making proof of the antirachitic effectiveness of the ultraviolet rays, much has been added to our knowledge of this disorder during the last eight years by the work of many men, such as McCollum, A. F. Hess, Howland, Shipley, Park, Kramer, Czerny, Móro, Freudenberg, György, Adam, Mellenby and Findlay. And yet, in many respects, rickets is still a mystery. Nevertheless, in my opinion, sufficient progress has been made to make its prevention more intelligent and effective than it heretofore has been.

It would be ideal from the standpoint of the most intelligent prevention of rickets to be in possession of all the essential facts concerning its etiology, pathogenesis and symptomatology. Fortunately, however, experience has taught us that much can be accomplished in the prevention of a disease or disorder without such intensive and inclusive information, a fact which applies also to rickets. While intensive students of this disease today may be unable to answer the question, "What is human infantile rickets?" the most important etiologic factor is known: the inadequate exposure to sunlight.

It is common knowledge that cod liver oil is the century old cure for this disease, and that both naturally and artificially produced actinic rays are very effective curative agents. Huldschinsky has recently suggested that the band of ultraviolet rays ranging in length from 320 to 289 millimicrons, which is most effective in the cure of rickets, be labeled ultraviolet B in contradistinction to ultraviolet A, which represents the ultraviolet rays above 320, and ultraviolet C, which represents those under 289.

The term rickets was at first applied to the clinical picture arising from the changes in the gross architecture and form of the bones. With the development of microscopic anatomy a definite standard of changes was recognized as being characteristic of rickets, and their detection was demanded by Virchow and later by Schmorl before the gross pathologic changes found could be accepted as being rachitic in nature. These microscopic changes mainly were the lack of calcification and the increase in osteoid tissue. When it was discovered, as the result of studies made by Schabad, E. Schloss and others of the mineral metabolism of rachitic infants, that in these cases the calcium and phosphorus retention was negative, rickets was accepted to be basically a disturbance of the calcium and phosphorus metabolism. Further substantiation of a pathologic change in the mineral metabolism was obtained by Howland, A. F. Hess, and their co-workers and others, by their quantitative studies of these minerals in the blood serum. However, many of the older clinicians, especially Heubner and Czerny, have maintained that rickets is a general metabolic disorder which affects the body as a whole but which shows the clinically recognizable results of its activity principally in the osseous system and, with Wieland, in that part of the osseous system which is growing most rapidly at the given time. In seeming confirmation of this idea might be used the relatively recent observations made by various workers, such as McClure and Chancellor, Freudenberg and György, A. Adam and König and Lenart, which indicate the presence of a pathologic disturbance of the carbohydrate metabolism in rickets. These authors demonstrated in rachitic infants an increase in the amount of diastase in the urine and feces and a decrease of the glycolytic power and the lactic acid level of the blood serum, and a seeming defect in blood-sugar level regulation. However, instead of

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* Chairman's address, read before the Section on Diseases of Children at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

these observations being indicative of a primary disturbance in the carbohydrate metabolism, they well may be the results of the low phosphate level existing in the blood and probably in the tissues as well.

Freudenberg, who with György maintains that the metabolism in rickets tends toward acidosis, probably best gives the present logical course for rickets investigation when he suggests that the question to be answered is not "Why does the rachitic bone remain uncalcified?" but rather "How does the hypophosphatemia develop under the influence of a deficiency in light and vitamins?" While he and György consider the general metabolic disorder, acidotic in type, as the primary stage in the pathogenesis of rickets, Adam believes that rickets fundamentally is a growth disorder. Howland maintained, in contradistinction to Findlay, that it was the abnormal phosphorus metabolism rather than the abnormal calcium metabolism which was important in the pathogenesis of rickets, and concluded that the deficit developed over the route of inadequate absorption from the intestinal tract.

A disturbance in the glands of internal secretion also has been regarded as being the first step in the pathogenesis of rickets. Stoeltzner many years ago maintained that the suprarenals were primarily concerned, and recently Vollmer and others have tried to involve other glands of internal secretion, as well. Bosanyi maintains that a hypofunction of the bone marrow represents the primary stage in rickets, and others have indicated that the disease occurs as the result of a disturbance of the vegetative nervous system. Robison believes that an enzyme secreted in the region of the osteoblasts and hypertrophic cartilage cells is concerned in ossification, and when hindered in its action is primarily responsible for the lack of calcification observed in rickets. Shipley, Kramer and Howland, however, found that rachitic bones will calcify in vitro in satisfactory calcium-phosphate solution of a p_H much lower than the one considered necessary by Robison, and therefore do not accept Robison's conclusion.

While it is evident from these data that our knowledge of pathlogic conditions existing in rachitic infants has been increased, our conception of the pathogenesis of rickets has not been simplified.

From the standpoint of the etiology of rickets, our present status may be described as follows:

Rickets will not develop in a human infant unless the infant grows; consequently, growth is a conditio sine qua non for the production of the clinical picture called rickets. However, it is a natural physiologic function for the normal infant to grow, and therefore growth cannot be the primary cause of any pathologic condition; hence there must be another primary factor.

As many authors, especially McCollum and his co-workers, have produced rickets in rats by disturbing too much the quantitative relationship of calcium and phosphorus in the diet, and as it is known that rickets appears in a much severer form in infants fed with cow's milk than it does in those fed with human milk, it would seem plausible to look to a faulty diet as the primary cause of rickets in the human infant. The diet of the human infant, however, cannot be the primary cause of the rachitic pathologic disturbance, as it is in the altered diets of rats, because human milk or cow's milk forms all or most of the infant's diet during the time rickets usually develops and because both milks contain enough of both calcium and phosphorus and in a proportion that is satisfactory. As a result, primary low calcium rickets, in my experience, does not occur in human infants, and the low phosphorus rickets which is the typical primary form in human infants must be due to some other cause than the diet. Another fact which strongly points in the same direction is that a severer form of low phosphorus rickets develops in infants fed cow's milk than in those fed human milk, though the former contains much more phosphorus.

But why does the human infant develop a less severe rickets when he is fed human milk than he does when his diet consists of some form of cow's milk? Is it because human milk contains the antirachitic factor and cow's milk does not, or is it because human milk is nature's food for the human infant and, being chemically and physically constituted as it is, represents less of a metabolic load than does cow's milk?

The antirachitic value of cow's milk, if existent at all, is too small to be of any significance so far as its effect on human rickets is concerned. And likewise the antirachitic factor content of human milk, surely during the darker half of the year at least, is negligible. I was not able to demonstrate its presence in milk obtained from wetnurses who received one tablespoonful of cod liver oil daily, even though this milk was fed for periods of thirty-three, thirty-six and forty-five days, and a search continued for evidence of its effect for fifty-one, sixty-three and sixty-eight days, respectively, in three cases of active nonhealing human rickets; and A. F. Hess found that human milk did not contain any curative powers when given to rachitic rats, unless the human mother was liberally exposed to the rays of the quartz mercury lamp. Hartman and I have found such human milk effective in bringing on a healing process in two active nonhealing cases of human rickets after intervals of thirty-two and twenty-two days of feeding, although the healing process was less advanced at the end of sixty days than that observed when such cases were treated with the customary antirachitic measures. When it is realized that the intensity of the actinic rays produced by the quartz mercury lamp is thirty times greater than that of sunlight, and that for at least the great bulk of human mothers the exposure to the sun's rays as far as skin area and the time of exposure are concerned comparatively will be much smaller even in the summer time, it is clear that until more data are at hand enthusiasm as to the antirachitic factor content of human milk as it is ordinarily produced is not advisable.

It is most probable, therefore, that the human infant develops rachitis less severely when fed human milk than when his diet consists of cow's milk because of the peculiar chemical and physical constitution of human milk, which must be considered physiologic for the human infant.

These observations strongly suggest that in human infants vitamins do not play a primary rôle in the development of rickets. If they did, human milk, which is the sole food for infants at a time of their existence when rickets is most likely to develop—from the third to the sixth month—should be richer in the antirachitic factor than it seemingly is. The fact that cod liver oil, which contains the so-called vitamin D, cures rickets does not prove that rickets observed in human infants primarily is a vitamin deficiency disease. Cod liver oil, it seems to me, is our civilization's excellent, economical and practical substitute—at least during the colder and darker half of the year—for exposure to sunlight. Is it not strange that the established vitamin deficiency diseases, such as xerophthalmia, beriberi and scurvy, are so rare in infants fed human milk from mothers, and that rickets is so common?

Do these facts not suggest that nature expects the human skin to be exposed to sunlight in order that the human infant may grow in a physiologic manner; or was it even a part of the plan that human beings migrate, as do the birds, to sunnier climes when the sun leaves our environment cold and dark?

Lack of exercise, especially when enforced by confinement, has been championed by Findlay more than by any one else as a primary cause of rickets, and yet any amount of exercise will not remove the characteristic pathologic features of rachitic blood and bone. Therefore it cannot be a primary factor in the development of rickets in human infants.

Likewise, heredity cannot contribute in a primary manner to the development or to the lack of development of rickets. No infant, however good the stock may be, can escape developing rickets if he is permitted to grow normally in the complete absence of the antirachitic factor. The rickets may be less severe than that found in another infant existing under the same conditions.

Such factors as heredity, lack of exercise, cow's and human milk containing diets, and vitamins all play merely secondarily etiologic rôles to the primary and fundamental cause of rickets, namely, inadequate exposure to the actinic rays or their equivalent of growing human infants.

The amount of exposure or the amount of antirachitic factor in the form of cod liver oil necessary to prevent rickets, according to studies which Wetzel, Nourse, Hartman and I have made on premature infants, seems to bear a direct relationship to the rate of growth. In other words, as the rate of growth usually is greater the younger the infant, his antirachitic factor requirement likewise is greater, and paradoxical as it may seem to be, the younger the infant the greater, for instance, is the amount of cod liver oil necessary to insure freedom from rickets. We have found that the actual maximum amount of cod liver oil required is not more than 1 cc., provided, of course, it is begun before the rickets develops. Therefore, in order to prevent rickets, the administration of cod liver oil or the exposure of the child to the actinic rays should be begun early—in our opinion not later than the beginning of the second week of life. The data forming the basis of these conclusions on the effectiveness of small doses of cod liver oil will be published later, and will offer adequate evidence to combat the idea that recently has begun to grow, that cod liver oil is not as potent as it had heretofore been thought to be in the prevention of rickets.

The great primary importance of the actinic rays to normal growth is evidenced by the fact that rickets occurs most severely and most frequently at the end of winter, and especially in those infants whose skins are pigmented.

In preventing rickets in premature infants it seems necessary, in addition to giving an adequate supply of the antirachitic factor, to increase their protein and mineral intake, even when they are getting human milk as a diet. This can be done in a very simple manner by adding some boiled skimmed milk to the diet.

When we prevent rickets we at the same time prevent the so-called idiopathic tetany or spasmophilia of infants. If rickets has developed and if it is continuously and adequately treated with the antirachitic factor, likewise spasmophilia or tetany will not appear. In other words, idiopathic tetany or spasmophilia will not appear if rickets is properly prevented or treated. However, if the treatment is interrupted, as it is unintentionally in the spring and fall when sunshine is present irregularly, then the spasmophilic picture will appear and sooner or later will give evidence in the roentgenogram of some healing having taken place, and in the blood serum of a change from the figures characteristic of a low phosphorus rickets to those of what unfortunately has been called a "low calcium rickets." In other words, low calcium rickets and spasmophilia develop in human infants only over the route of primary low phosphorous rickets which has been peculiarly treated.

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DYSPHONIA: ITS SIGNIFICANCE AND MANAGEMENT *

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This is unquestionably the era of the research worker. There is a demand for greater enlightenment and more accurate information on the various baffling medical questions, and modern laboratory methods bid fair to fulfil at least part of these expectations. For these reasons the medical profession has come to look to the laboratory, instead of to the clinician, for a solution of its problems. It is therefore with a certain feeling of timidity that I present this well known clinical entity for discussion. At the same time, because of this attitude, our medical literature shows a comparative paucity of topics pertaining to everyday practical problems.

Has any one a right to add to the burden of medical literature when nothing new can be contributed toward a knowledge of the subject? If the practitioner can find the desired information in almost any recent standard textbook, should he be burdened with additional papers? Obviously, such a query must be answered in the negative. In this instance, I am prompted by the following considerations to review this subject:

1. Horseness is a very common symptom presented by patients.
2. Too frequently the condition is treated as chronic laryngitis when more intensive study will reveal other underlying conditions.
3. Correct and early diagnosis is important since hoarseness is often the first and only danger signal of an existing serious disease, either local or systemic, in which prompt treatment might save the patient untold suffering and premature death.
4. A review of the standard textbooks does not reveal the subject of hoarseness treated as an entity under this title.

This paper is therefore presented in order to emphasize and stress certain features of this symptom, both individually and collectively.

Before I proceed with the subject, a brief description [1] of the mechanism of normal voice production may not be amiss. It is dependent on three functions of the "vocal apparatus," which includes (*a*) the larynx as the primary source of tone; (*b*) the chest as the source of motive power, and (*c*) the resonant chamber of chest, head and vault of the pharynx. Hence, in order to produce a clear voice a proper respiratory act, unimpeded vibration of the vocal cords with their proper approximation, and a normal vault of the pharynx are essential. Manifestly, impairment of any of these elements in voice production may cause hoarseness. The classification of hoarseness is difficult. In a general way and for the purpose of description it may be stated that it may either be functional or organic. A diagnosis of functional hoarseness should be made only when organic disease can be excluded with a fair degree of certainty.

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* Read before the Section on Laryngology, Otology and Rhinology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

* From the laryngologic services of Riverside Hospital, Sydenham Hospital (service of Dr. Danziger), Harlem Hospital (service of Dr. Hubby), and Bronx Hospital (service of Dr. Ballin).

[1] Ballenger, W. L.: Ear, Nose and Throat, ed. 4, Philadelphia, Lea & Febiger, p. 527.

The hoarseness due to organic disease may be classified[2] according to etiology (inflammatory, noninflammatory, cerebrospinal, toxic) somewhat as follows:

1. Inflammatory:
    - (*a*) Acute laryngitis.
    - (*b*) Perichondritis following quinsy, typhoid, variola, scarlet fever, rheumatism or any acute infectious disease.
    - (*c*) Ankylosis or arthritis of crico-arytenoid joints.
    - (*d*) Pressure on recurrent laryngeal nerve or the vagi.
    - (*e*) Damage to crico-arytenoid muscle or arytenoid itself.
    - (*f*) Laryngitis sicca.
    - (*g*) Sinus disease.
    - (*h*) Dental origin[3]—probably a focal infection.
2. Noninflammatory:
    - (*a*) Benign or malignant neoplasms.
    - (*b*) Serous infiltration.
    - (*c*) Pressure of tumor on trachea.
    - (*d*) Pressure on recurrent laryngeal nerve or the vagi.
    - (*e*) Damage to crico-arytenoid muscle or arythenoid itself.
    - (*f*) Foreign body in the larynx.
    - (*g*) Prolapse of ventricle.
    - (*h*) Stenosis or web of larynx, congenital or acquired.
    - (*i*) Abuse of voice: failing to bring cords together.
    - (*j*) General anemia.
    - (*k*) Cardiac origin.
    - (*l*) Spasm of laryngeal muscles, as in laryngismus stridulus.
3. Cerebrospinal:
    - (*a*) Bulbar paralysis.
    - (*b*) Brain tumor.
    - (*c*) Syringomyelia.
    - (*d*) Bilateral paralysis of adductor or abductor muscles.
4. Toxic:
    - (*a*) Alcohol.
    - (*b*) Tobacco.

The pathologic condition varies with each etiologic factor; hence it would lead us too far afield to go into any detail.

A diagnosis[4] of the cause of hoarseness is at times exceedingly simple. The following reported cases are typical of a fairly large number of those seen:

REPORT OF CASES

Case 1.—S. L., a man, aged 50, married and occupied as a tradesman, was referred to me by Dr. Jucovy because of hoarseness for the past eight months. He had consulted various physicians and was told that the condition was due to his occupation, which required the use of his voice to excess, and rest and steaming were therefore advised. Laryngoscopic examination revealed a small pedunculated growth in the anterior third of the vocal cord. Under local anesthesia this was removed by the indirect method. Speech returned almost immediately. The pathologic report was papillofibroma.

At other times, even with modern methods, the diagnosis is quite perplexing.

Case 2.—I. S., a man, aged 43, presented himself in the clinic complaining of hoarseness which had lasted about a year. He gave a vague history of arrested pulmonary tuberculosis. Laryngoscopic examination showed a slightly inflamed larynx with a small wartlike growth in the interarytenoid space—a favorite site for tuberculous involvement. The nose, chest, blood and sputum were normal. A biopsy was done by the direct method, and two pathologists pronounced the specimen early carcinoma. The clinical observations did not exactly give the impression of a malignant growth, and the case was presented at the Laryngological Section of the New York Academy of Medicine. Subsequently, another pathologist examined the slide and pronounced it chronic inflammatory tissue. The patient was seen about a year later; there was no change in his condition. He refused to submit to further manipulation

Case 3.—J. O., a man, aged 60, a laborer, presented himself with a history of progressive hoarseness of about two years' duration. He gave an indefinite history of a possible syphilitic lesion with secondary manifestations twenty-eight years before. There was no loss of weight. Examination of chest and sputum proved negative, and the blood Wassermann reaction was likewise negative. Laryngoscopically he showed, on the left vocal cord, a tumor covering its anterior two-thirds, irregular in outline. The cryco-arytenoid joints were mobile. In view of the patient's age, the appearance of the tumor and its consistency, a clinical diagnosis of carcinoma of the larynx was made. Biopsy material was sent to a pathologist, who reported it to be a papillary fibroma. The patient was urged to have the growth removed lest it might become malignant. He passed from my observation. Some time later, Dr. D. H. Jones of this city informed me that the patient came to his clinic and pathologic specimens removed before and at operation of the larynx proved to be malignant.

At other times one's diagnostic acumen is taxed to the extreme.

Case 4.—M. S., a woman, aged 62, a housewife, seen through the courtesy of Dr. Blutstein, gave a history of having become hoarse four years before, more or less suddenly. She visited a clinic where roentgenologic examination of the chest was advised, but she did not give the matter any further attention. For the past two months, she had experienced difficulty in swallowing of both fluids and solids. She also noticed rapid loss of weight and complained of pain in the back of the neck. Laryngoscopic examination revealed a complete left recurrent laryngeal paralysis. Though syphilis was not considered a probability, a blood specimen was obtained which later gave a negative Wassermann reaction. The patient was taken to a radiologist for an investigation of the probability of either a carcinoma of the esophagus of slow development or of a mediastinal tumor. Under the fluoroscope, fermented milk passed without obstruction, and the chest was normal. Films of the chest and esophagus were also normal. The family were told that we were dealing here with a serious condition and were advised to allow us to observe the patient in a hospital. From then on the patient passed from observation. Through the kindness of the family physician, the case was followed up. She was examined bronchoscopically by another laryngologist with negative results. She sought the opinion of a third very competent laryngologist, who advised another series of roentgen-ray plates to be taken in another position. Shortly after this, four weeks after I saw her, she suddenly developed a temperature ranging between 104 and 105 F. and died within twenty-four hours. The paralysis was probably of a cerebral origin.

Occasionally no reason for the hoarseness can be found.

Case 5.—B. N., a married woman, aged 28, the mother of one child and employed as a telephone operator, referred by

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[2] Nelson's Loose Leaf Medicine **3:** 422, 428, 473, 658, 659. Jackson, Chevalier: Chalk Talk on the Larynx, syllabus number 2.

[3] Harris, T. J.: Report of Six Cases of Dysphagia and Dysphonia of Dental Origin, New York M. J. **105:** 975 (May 26) 1917.

[4] Osler, William: Practice of Medicine, ed. 8, New York, D. Appleton & Co., 1918, pp. 614-620. Holt, L. E.: Diseases of Infancy and Childhood, ed. 6, New York, D. Appleton & Co., 1911, pp. 462-470. Still, G. F.: Common Disorders and Diseases of Childhood, second impression, Oxford University Press, 1910, pp. 293, 295-297, 301-303, 576, 691. Lockard, L. B.: Tuberculosis of the Nose and Throat, 1909, pp. 68, 82, 85. Johnson, J. S.: A Case of Postural Hoarseness, Dublin J. M. Sc., November, 1926, p. 416. Myers, E. L.: Hoarseness Caused by Thyro-Arytenoid Interni Paresis with Symptoms Simulating Acute Pulmonary Tuberculosis Due to Sinus Infection, Laryngoscope **29:** 720, 1909. Watson-Williams, P.: Hoarseness, Importance of Early Clinical Diagnosis, Bristol Med.-Chir. J. **40:** 153, 1923; Clinical Importance of Hoarseness, Practitioner **108:** 153 (March) 1922. McCready, J. H.: Hoarseness, Its Relation to Local and General Diseases, Pennsylvania M. J. **21:** 521-523 (May) 1918.

Dr. Rothfeder, spoke with a whispered voice and stated that two days previously, after a violent argument with her husband, she had lost her voice. Laryngoscopic examination revealed a perfectly normal larynx with good approximation of cords, but no voice production. The diagnosis was hysteria. Her voice returned the next day, but dysphonia always followed excitement thereafter.

COMMENT

In children, the acute onset of hoarseness, although frequently considered a trivial condition, may at times become a matter of utmost seriousness and of immediate danger to life. A direct laryngoscopic examination to rule out the presence of a membrane should be insisted on in each case. This is a rather simple, quick, painless and most reliable method and should be done without any anesthetic, either local or general.

A foreign body in the larynx, usually a coin, is most commonly overlooked. Even when the mother insists on this, the family physician often refuses to admit the possibility of a coin slipping into the child's larynx. When a history is obtained of a child's sudden suffocation and cyanosis, just as suddenly relieved, only to be followed by hoarseness, a foreign body in the larynx should always be suspected. A roentgenogram is always indicated in these cases.

Table 1.—*Differential Diagnosis of Acute Laryngitis in Children*

1. Diphtheria	2. Perichondritis; rare	3. Pseudomembranous Croup	4. Foreign Body in Larynx	5. Laryngismus Stridulus	6. Thymus (Status Thymicolymphaticus)
(a) Laryngoscopically: membranous deposit on laryngeal mucosa, trachea, or both	(a) No membrane	(a) Membrane present	(a) Foreign body often seen	(a) Rare	(a) Membrane absent
(b) Positive culture from larynx	(b) Culture negative	(b) Culture negative	(b) No history of prodromal symptoms	(b) Occurs only in infancy and in rachitic children	(b) Culture negative
(c) Temperature usually not high	(c) Temperature comparatively high	(c) Temperature varies	(c) History of sudden suffocation	(c) Intermittent	(c) No rise of temperature
(d) Prostration great	(d) Prostration not so great	(d) Not much prostration	(d) No prostration	(d) History of previous attacks	(d) Roentgenogram shows enlarged thymic shadow
(e) No nocturnal exacerbation	(e) Nocturnal exacerbation	(e) Nocturnal exacerbation	(e) May or may not have nocturnal exacerbation	(e) Relieved by inhalation of anesthetic	
(f) Getting progressively worse				(f) Nocturnal exacerbation	
(g) Stridor, both inspiratory and expiratory					

In the more acute type of case, diphtheria, pseudomembranous croup, foreign body in the larynx, perichondritis, laryngismus stridulus and enlarged thymus must be borne in mind; in chronic cases, among the multiplicity of causes, adenoids, papillomas, tuberculosis, cerebral tumor, abuse of voice, feebleness of musculature of whatever cause, anemia, chronic laryngitis, congenital syphilis, and stenosis of the larynx (acquired or congenital).

Acute onset of hoarseness in adults is usually due to either primary or secondary laryngitis. When pain is marked in the larynx, herpes should be looked for. If dyspnea is great, one must always think of abscess in or around the larynx, or of acute edema. Laryngoscopic examination determines the cause. A diagnosis of chronic laryngitis should never be made until everything else has been ruled out. Though rare, sometimes a tuberculous patient may have carcinoma or syphilis of the larynx, and a syphilitic patient may have carcinoma or tuberculosis of the same organ.

A careful history is most essential in all cases.

The following information should be sought:

1. Mode of onset, whether slow or sudden; whether the attack of hoarseness follows a head cold or postnasal discharge.

2. Whether persistent or intermittent. If the latter, whether it follows an excessive use of the voice, or whether patient gets up with clear voice in the morning and becomes hoarse toward the afternoon, or vice versa.

3. Habits, such as alcohol, tobacco.

4. Occupation. Whether it requires an excessive use of the voice, whether the place of employment is dusty or smoky, and as to the presence of irritating gases.

5. Preexisting illnesses. Special attention is to be paid to pain in the larynx, cough and loss of weight. The latter subjective complaint will often be concealed intentionally by the patient lest he be told that he suffers from a serious illness, especially tuberculosis. Hence it is practical to inquire as to what he weighed six months before, and weigh him again in the office; also inquiry should be made about the frequency of head colds and syphilitic infections.

6. Rectal temperature, pulse and respiration rate, which are useful aids.

7. A careful nasal examination. This is very essential, and when one is in doubt paranasal sinuses should be roentgenographed.

8. A laryngoscopic examination, direct, indirect or both.

This examination is absolutely indispensable in each and every case.

When, in spite of the foregoing information, the diagnosis is still obscure, biopsy, sputum, blood Wassermann and urine examinations, bronchoscopy and esophagoscopy should be resorted to.

The most important differentiations are between chronic laryngitis, benign growths, syphilis, tuberculosis and carcinoma.

Of the benign growths short reference will be made to angioma.[5] This is a very rare neoplasm. When it is present a history of repeated hemoptysis and hoarseness is given, and because of this, such cases were reported to have been mistaken for tuberculosis and the patients confined to institutions.

The most common characteristics of angiomas are: subjectively, hoarseness, dyspnea, stridor and bloody expectorations; objectively, a small pedunculated or sessile reddish growth situated in the anterior half of the cord. When this becomes erect, smaller and firmer, and takes on a deeper hue during phonation, it is almost certain to be an angioma.

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5. Wolf, G. D.: Angioma of the Larynx, M. J. & Record (supp.) 14-15, July 2, 1924.

MANAGEMENT

The scope of this paper would naturally not permit me to enter on this subject in any great detail.

Abuse of voice is best taken care of by those trained in the management of speech and voice defects.

Benign growths must be removed surgically. With the advent of various direct laryngoscopes, the old art of indirect laryngeal invasion is gradually losing ground. This is to be regretted because with a fair amount of experience one can accomplish just as much with this comparatively simple but efficient procedure. It must not be forgotten that there still are a great number of patients who would rather remain hoarse than submit themselves to direct laryngoscopy with either the Jackson or Hasslinger type of directoscope.

Table 2—*Differential Diagnosis in Chronic Hoarseness*

	Chronic Laryngitis	*Tuberculosis*	*Syphilis*	*Benign Growths*	*Malignant Growths*
1 Sex	Male (alcohol, tobacco) more common	Both	Male (predominant)	Any	Varies
2 Age .	Any	Between 20 and 40	Any	From 20 years up	Usually after 45
3 Onset .	Slow	Slow or rapid	Rapid	Sudden and progressively worse	Slow or rapid
4. Duration ..	Long	Long or short	Long; progressive if not treated	Long	Long or short
5 Intermittent	Usually	Progressive	No	Steady	Steady
6 Constitutional symptoms	Slight or nil	Usually present	Slight	None	None early but present later; loss of weight, cachexia
7 Climatic conditions	Worse in bad weather	Improved in dry climate	Not affected	None	No
8 Rest	Improved by	Improved by	Not improved	No	No
9 Pain .	Absent	Absent early, usually present later; depends on location of lesion	Absent	Absent	Present
10 Laryngoscopically					
(a)	Diffuse hyperemia and thickening of all the mucous membrane of the larynx including the true vocal cords	Varies from edema of arytenoids only to involvement of whole larynx with ulceration	General erythemia	Small pedunculated or sessile tumor on any part of vocal cord	Predilection for involvement of anterior portion of vocal cords
(b)	Mucous membrane atrophic in the atrophic type; hypertrophic in the hypertrophic type	Pale, glassy and edematous; tuberculomas may be present	May be normal	Some secondary laryngitis	Varies with stage of growth
(c)	Secretions absent unless complicated by bronchitis; scabs may be present	Scanty, grayish ropes; also depends on pulmonary condition	Profuse; purulent yellow	Absent	Foul smelling blood stained slough
(d)	Mobility, unaffected or tardy	Unaffected or tardy only when edema of arytenoids is pronounced	Unaffected, when unilateral paralysis exists, probably due to pressure on recurrent laryngeal nerve by aneurysm or of central origin	Not impaired	Impaired
(e)	Ulcerations none	1 Superficial, moth-eaten surface 2 Mild red areola 3 Ragged, ill defined edges 4 Indistinct demarcations	1 Deep and angry surface; frequently unilateral 2 Angry red areola 3. Sharply cut edges 4 Distinct demarcations	None	Diffuse, on an indurated base, deep, with everted edges

For chronic laryngitis, rest of voice, steaming, and the administration of mild expectorants, such as ammonium chloride or potassium iodide, are good adjuvants. While not an established fact, it is my opinion that chronic laryngitis is usually a secondary condition, and that the primary offender is usually the nose. Unfortunately, this fact is often lost sight of, as the following case very well illustrates.

Case 6.—W. C., a married man, aged 31, a broker, who had been taxing his voice a great deal, complained of extreme hoarseness for one year, which had resisted all forms of treatment. He complained also of postnasal dropping and headaches. His relevant past history included a tonsillectomy seven years before, submucous resection five years before, and two removals of polypi on the right side, and four months before, respectively. Nasal examination revealed the presence of polyps and pus in both middle meatuses. Transillumination showed diminished illumination of the frontal and ethmoidal sinuses, and darkness of both antrums. Roentgen-ray examination confirmed these observations. Roentgen-ray examination of the chest showed only slight thickening of each hilum but no evidence of tuberculosis. The Wassermann reaction was negative and the sputum normal. After the polypi had been removed and a radical double antrum operation performed, according to the Cauldwell-Luc method, the patient's voice returned to normal except for a slight recurrence following an attack of grip, which cleared up without much attention.

Hoarseness due to laryngitis sicca deserves especial attention. This invariably follows a similar pathologic condition in the nose. It usually begins as a mild progressively increasing dysphonia. Unless diagnosed early and checked promptly it may cause sudden dangerous asphyxia, and nothing short of tracheotomy will save the patient's life. When seen early, the scabs impregnating the larynx must be softened down with alkaline sprays and medicated oil injected into the trachea until all hard secretions are seen to loosen and are coughed up by patient. Sometimes a cotton-wound laryngeal applicator must be used to help loosen up the scabs. The patient must be watched for recurrences at reasonably frequent intervals. The nose must receive appropriate treatment.

TUBERCULOSIS OF THE LARYNX.[6]

It is often hard to convince the family physician that:

1. Normal sputum and presumably a normal chest does not exclude tuberculosis of the larynx.

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[6] Danziger, Ernest: Laryngeal Tuberculosis and Its Treatment, M. J. & Record **119**: 556 (June 4) 1924. Thomson, St. Clair: Tuberculosis of the Larynx. Treatment with the Galvanocautery. Indications, Results, Technic, Lancet **1**: 1084 (June) 1926, quoted by the Archives of Otolaryngology, November, 1926, p. 453. Blegvrad: Light Treatment of Laryngeal Tuberculosis, Rev. de laryngol., Feb. 28, 1923. Strandberg, Ove: The Treatment of Rhinolaryngological Tuberculosis by Finsen Light Bath and Results, Lancet **2**: 1236 (Dec. 8) 1923. Spencer, F. R.: The Medical and Surgical Treatment of Laryngeal Tuberculosis, Ann. Otol., Rhin. & Laryng. **34**: 424 (June) 1925.

2. Tuberculosis of the larynx is not necessarily a late involvement of an advanced pulmonary condition. It may occur relatively early.

3. Tuberculosis of the larynx is not incurable.

(*a*) Since a negative sputum does not exclude pulmonary tuberculosis, the same statement must needs hold true for the larynx, too.

(*b*) One occasionally sees either mild or a very advanced laryngeal tuberculosis in cases in which hoarseness was the first and only complaint, and in which, only after a thorough search, a questionable pulmonary involvement was established. The following case report illustrates this point:

CASE 7.—A married woman, aged 24, the mother of one child and expecting another in about a month, came to the clinic complaining of very severe hoarseness and dysphagia. Examination revealed marked involvement of the whole larynx with ulcerations. Physical examination of the chest and sputum was negative, as was the Wassermann reaction. The results of a roentgen-ray examination of the chest were doubtful. The patient was advised to enter the hospital and have labor induced immediately. This she refused. Through the social service department, the case was followed up. Her family physician referred her to another laryngologist, who confirmed our diagnosis. During and immediately after the puerperium the patient grew rapidly worse and succumbed. The cause of death was given as pulmonary and laryngeal tuberculosis.

(*c*) In a given case in which a clinical diagnosis of tuberculosis of the larynx had been made, the mode of procedure would depend on two factors; first (by far the most important), the condition of the chest; second, the amount and type of involvement in the larynx. The involvement of the latter does not necessarily always go hand in hand with the chest involvement. One may have a marked involvement of the chest (this type is seen in institutions) and very little, if any, in the larynx; or advanced tuberculosis of the larynx when there is an arrested pulmonary lesion or when a pulmonary lesion is very difficult to establish, with all our present methods at hand. The latter type is encountered frequently in clinics and private practice. Here, too, rest is the most important treatment and the most difficult to carry out. Even whispering is prohibited, and the patient must use pencil and paper. When this can be carried out, half the battle is won. There are those who believe that this gives as good results as any. Indeed, it is sufficient for the very mild and the only resort in advanced cases. In the latter, on account of dysphagia, the patient must also be given a cocaine spray and the instillation of orthoform emulsion before feeding. The efficacy of local applications of such substances as lactic acid or solution of formaldehyde is questioned by many, including myself. When the mucous membrane is intact, local application ought to be avoided so as not to injure this most important protective agent. When there is ulceration or edema which is causing the dyspnea, galvanocautery punctures are by far the best.

St. Clair Thomson, in his recent paper on this subject,[6] says:

> The three chief conclusions arrived at are that: (1) as a local help the galvanocautery is the most valuable remedy we possess at present; (2) the cases in which it is suitable are relatively few; (3) these cases, well selected, yield a cure in a large proportion.
>
> No patient who has not been treated in the sanatorium for three months is ever submitted to the galvanocautery, the effect of rest on the voice having first been determined. The most promising patients are those in whom the disease is restricted to the intrinsic larynx, i. e., the vocal cords, the interarytenoid and the arytenoid regions. The treatment is dangerous during an acute invasion by the disease, or if there is perichondritis or pain and dysphagia. The general condition of the patient must also be studied. If there is an unsteady temperature, quick pulse, failing weight or feeble resistance, it is unwise to use the cautery.
>
> During a period of fourteen years at Midhurst sanatorium, 17.5 per cent of the total number of patients had laryngeal tuberculosis. Of the 620 patients with laryngeal tuberculosis, 16.61 per cent were considered suitable for cautery treatment (as many patients are cured by being silent or whispering). The number of treatments average about 3.2 applications, and each application should be about one month apart. A cure resulted in 62 per cent of the cases during the first ten years of the period and in 69 per cent during the last four years. During the first ten years, a cure was secured by silence, whispering, or by the galvanocautery in 25 per cent of the cases of laryngeal tuberculosis. The author prefers the indirect method of applying the galvanocautery under local anesthesia. A fine platinum point is used at white heat at the edge of the ulcer, the object being to promote inflammatory and limiting fibrosis. Several punctures may be made at one sitting, the number depending on the size of the diseased area.

LIGHT TREATMENT

I have not had any personal experience with light treatment. Some very good results are reported, especially from continental clinics. Blevgrad[6] of Copenhagen reports as high as 40 per cent cured among 178 patients, including a majority of cases of advanced laryngeal tuberculosis. Fifty of those patients that were not cured were greatly improved; in twenty-four the disease was slightly ameliorated; six remained unaffected, and in twenty-seven the process progressed. He employs powerful arc lamps (25 amperes) of special construction, and the light obtained reaches from 4,000 to 7,200 Hefner units.

Strandberg[6] reported very good results from the use of the Finsen baths. In 100 patients thus treated, fifty-three were cured, ten were still under treatment but improved, and thirty-seven lapsed. In the latter group nineteen were improved; six unchanged; six, aggravated, and six died. From these data, we may readily conclude that a tuberculous patient with laryngeal involvement is far from doomed to death.

CARCINOMA[7]

Because there is no direct communication between the lymphatic system of the larynx with the outside, and because it is confined in a cartilaginous box, one must not wait for glandular enlargement and loss of weight in the intrinsic type of carcinoma.

When diagnosed early, correctly applied surgery offers a high percentage of cures (as high as 80 per cent reported by some).

In the late inoperable case, roentgen-ray and radium treatments are perhaps the only resort. The same holds good for the extrinsic type. In the latter, when the lesion is limited, electrocoagulation has been used with some success.

SUMMARY AND CONCLUSIONS

From the foregoing observations, it seems justifiable to conclude that:

1. Since the larynx is accessible for both inspection and manipulation, no case of hoarseness should escape laryngoscopic examination.

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[7] Thomson, St. Clair: Diseases of the Nose and Throat, New York, D. Appleton & Co., 1926, pp. 508-509, 519, 548, 558-559. Mackenty, J. T.: The Operative Treatment of Cancer of the Larynx, J. Laryng. & Otol. **39**: 67 (Feb.) 1924. Lewis, F. O.: Early Diagnosis and Treatment of Malignant Diseases of the Larynx, Atlantic M. J. **26**: 797 (Sept.) 1923. Sargnon: Malignant Neoplasms of the Pharynx and Larynx, Surgery, Radium and Radio-Therapy, Arch. internat. de laryngol. otol. rhinol., November, 1923.

2. Hoarseness is annoying to the patient not only in itself but because of the persistent curiosity on the part of friends and relatives.

3. A syphilitic or a tuberculous patient may have a different or mixed lesion in the larynx.

4. Dysphonia of more than three weeks' standing should be looked on with apprehension until proved otherwise than serious.

5. Early diagnosis will often save the patient agony and death.

6. Pathologic, serologic and other laboratory tests, like clinical diagnosis, are not infallible and should be checked up.

7. When there is discrepancy in the pathologic reports, the decision must lie with the clinician.

8. When the biopsy report is contrary to the clinical evidence, the former should be disregarded.

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ABSTRACT OF DISCUSSION

Dr. Frank R. Spencer, Boulder, Colo.: Dr. Wolf has called attention to dysphonia as an entity rather than as a symptom of some disease. As clinicians we must be prepared to diagnose the disease which is causing the dysphonia. It is difficult for me to think of dysphonia as an entity. We are all familiar with the hoarseness or even aphonia as a symptom of an acute cold, sinuitis, tonsillitis, influenza, pneumonia, typhoid and the acute infectious diseases of children. Dr. Francis P. Emerson has emphasized the frequency with which infections in the nose and nasal accessory sinuses may travel down to the chest; infections in the lungs may extend upward, and those infections manifesting themselves first in the tonsils and pharynx may extend either up or down or both. If the larynx is normal, hysteria should be excluded. Paralysis of the left recurrent laryngeal nerve suggests aneurysm of the aortic arch, and paralysis of the right inferior laryngeal nerve may be caused by aneurysm of the right innominate artery. Either may be caused by a dilated heart, tuberculous glands, goiter, or benign or malignant tumors in the mediastinum. Other paralyses may be of central origin. Recurrent attacks of dysphonia in adults are often caused by syphilis and tuberculosis; less frequently by rarer diseases, such as carcinoma, lupus, actinomycosis, papilloma or other benign tumors. Foreign bodies often are a cause. Focal infection is likewise very important. I believe that so many cases of dysphonia are caused by general diseases that we constantly need the help of the internist, the pediatrician and the laboratories. Dr. Wolf mentions the importance of absolute silence, whispering and the cautery in the management of the tuberculous larynx. He emphasizes also light therapy, but this has not been very satisfactory in the hands of most laryngologists. Heliotherapy is very important: first, because it lessens pain, and second, because it has a definite curative value. Heliotherapy is less expensive for patients to use, because they can be taught to treat themselves, as a rule, even when they are being cared for in an institution. Dr. Wolf emphasized the importance of early diagnosis. I heartily agree that early diagnosis is extremely important, because without it very little, if anything, can be accomplished of curative value.

Dr. Homer Dupuy, New Orleans: The recurrent laryngeal nerves have two sets of fibers, one for abduction, openers of the glottis, the other for adduction. They are closers of the glottis. The first indication of pressure on the recurrent nerve is dysfunction of the abductors. In pressure from hyperplasia of the thyroid, there is, at first, a predysphonic phenomenon. When the left or right thyroid lobe presses on the recurrent nerve, the first effect of the pressure is on the abductor fibers. There is no aphonia. But as the pressure continues and increases it will implicate both the abductors and the adductors with complete paralysis of the nerve. Preoperative examination of all thyroid cases is important. It protects both the patient and the operator. We may sometimes catch the patient in the initial stage of abductor paralysis, before dysphonia has set in. We can then advise earlier operation to prevent complete recurrent paralysis. Secondly, if we have preoperative information that a nerve involvement is already present, and should the vocal disturbance lead to a malpractice suit, we can then protect the operator.

PREGNANCY AND NEUROSYPHILIS *

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In 1922 a study was published by Moore[1] which showed, after careful analysis, that pregnancy tended to protect women from the late accidents of neurosyphilis and that the apparent predominance of late neurosyphilis in men as compared to women could largely be explained on this basis. A study along the same lines appeared in 1926 by Solomon,[2] who, after analyzing 559 cases, concluded that his results tended to corroborate those of Moore in ascribing to pregnancy a protective influence against late neurosyphilitic accidents.

Experimental evidence bearing on this question is found in the work of Brown and Pearce[3] on the inoculation of pregnant and lactating rabbits with syphilis. These observers found that only half of the gravid and lactating animals inoculated developed evidence of primary lesions, while all the controls developed such lesions in the usual time. It is important to note, however, that in this experiment half of the gravid and lactating animals which did show evidence of primary lesions developed at the same time constitutional disturbances and emaciation not seen in any of the control animals.

That pathologic conditions inducing profound changes in metabolism can affect the course of syphilis and notably influence the occurrence of neurosyphilis is suggested by the work of Mattauschek and Pilcz,[4] who showed that, in a group of soldiers recently syphilitic, those having constitutional disease with high fever during the first year of the infection showed a much smaller incidence of late neurosyphilis than did the group in which such diseases did not occur.

The infrequency of neurosyphilis in countries in which malaria is endemic, as has been brought out by recent studies, also tends to show that profound constitutional disturbance resulting in high fever can influence the course of syphilis with regard to neurosyphilitic accidents.

The alleged protective influence of pregnancy against syphilitic lesions is suggested by Routh[5] to be due to chorionic ferments which may cause a breaking up of spirochetes into granules and thus hold them inactive during the pregnant state.

On the other hand, the literature contains many references which tend to show that the converse is true;

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*Studies and Contributions of the Department of Dermatology and Syphilology of the University of Michigan Medical School, service of Dr. Udo J. Wile.

* Read before the Section on Dermatology and Syphilology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

[1] Moore, J. E.: Studies in Asymptomatic Neurosyphilis: III. The Apparent Influence of Pregnancy on the Incidence of Neurosyphilis, Arch. Int. Med. **30**: 548 (Nov.) 1922.

[2] Solomon, H. C.: Pregnancies as a Factor in the Prevention of Neurosyphilis, Am. J. Syph. **10**: 96 (Jan.) 1926.

[3] Brown, W. H., and Pearce, Louise: On the Reaction of Pregnant and Lactating Females to Inoculation with Treponema Pallidum: A Preliminary Note, Am. J. Syph. **4**: 593 (Oct.) 1920.

[4] Mattauschek and Pilcz: Ztschr. f. d. ges. Neurol. u. Psychiat. **8**: 133, 1912; ibid. **15**: 608, 1913.

[5] Routh, A.: Spirillolysis and Its Causation, Lancet **2**: 988 (Nov. 13) 1920.

namely, that pregnancy does not protect against syphilitic accidents, and, indeed, that in some cases it may predispose to them. Gellhorn[6] calls attention to the reappearance of lesions during pregnancy after a period of latency, and quotes Augagneur,[7] Rille,[8] Winckel[9] and Zweifel[10] as having made similar observations. More recently Bertin[11] and Recamier[12] have noted the reactivation of both congenital and latent syphilis during pregnancy.

With a large and carefully checked material at my disposal, I determined to undertake the present study with the idea of shedding further light on this interesting subject, and especially to bring forth further evidence as to the influence of pregnancy on late syphilis of the nervous system.

The cases studied have been taken from the records of the University of Michigan Hospital in their numerical order between July 1, 1920, and June 30, 1925. One factor that will tend to make the incidence of central nervous system involvement higher than in most places is the fact that many of these patients come to the clinic because of central nervous system involvement.

TABLE 1.—*The Incidence of Central Nervous System Invasion in Early Syphilis in Males and Females*

Sex	Cases	Central Nervous System Invasion	Percentage
Males	96	20	20.8
Females	85	18	21.2
Total	181	38	20.9

It is generally accepted that definite deviations from the normal in the spinal fluid are sufficient evidence for the determination of cerebrospinal involvement. That this involvement is frequently a transitory phenomenon in the nature of an enanthem must also be accepted in view of the spontaneous disappearance of such conditions and their ready disappearance under treatment.

Invasion of the nervous system, therefore, should be sharply differentiated from involvement in an analysis of this sort. The latter suggests at least pathologic features of a more or less permanent nature and leading immediately or potentially to symptoms.

A positive Wassermann reaction of the spinal fluid is seldom found except where other evidence exists of actual tissue involvement.

While I believe that other deviations in the cerebrospinal fluid from the normal probably frequently indicate syphilitic disease, and conversely, that serious disease may exist without a positive Wassermann reaction, I have taken as a criterion of definite tissue injury the positive spinal fluid Wassermann reaction for the purposes of this study.

Syphilis as a whole is seen in our clinic practically twice as frequently in males as in females, the exact ratio being from 6.3 to 3.7, and if we based our conclusion as to neurosyphilitic incidence on the total number of cases, we should find a much larger incidence in men than in women.

To establish a comparative percentage incidence of central nervous system invasion and involvement, I have examined approximately equal numbers of male and female cases. The results are shown in tables 1 and 2.

TABLE 2.—*The Incidence of Central Nervous System Involvement in Late Syphilis in Males and Females*

Sex	Cases	Central Nervous System Involvement	Percentage
Males	379	160	42.2
Females	396	150	37.6
Total	775	310	40.0

By early syphilis I mean those cases showing primary or secondary lesions. By late syphilis I mean all cases which have passed the secondary stage and include latent syphilis and all tertiary manifestations.

A comparison of these tables shows the incidence of central nervous system invasion in early cases to be practically identical in males and females, and these figures are precisely those of Moore. With regard to the incidence of cerebrospinal involvement in late syphilis, I present my analysis of 396 women as compared with 379 men. The total incidence of cerebrospinal disease in this group was 42.2 per cent for the men and 37.6 per cent for the women. The female group included both parous and nulliparous women.

TABLE 3.—*The Incidence of Central Nervous System Invasion in Early Syphilis in Parous and Nulliparous Women*

	Cases	Central Nervous System Invasion	Percentage
Parous	44	12	27.3
Nulliparous	41	6	14.6
Total	85	18	21.2

It would appear, therefore, from these figures, that no great difference existed which could be ascribed to the difference in sex.

Carrying the analysis further in the female group to determine the influence of pregnancy on invasion and involvement of the central nervous system, it is found that of the eighty-five women included in the early group (table 3), forty-four had been pregnant and forty-one had never been pregnant. Of the parous women 27.3 per cent showed invasion, as compared with only 14.6 per cent who had never been pregnant. Thus, in the early group a much larger percentage of parous women showed invasion than occurred in the nulliparous cases.

TABLE 4.—*The Incidence of Central Nervous System Involvement in Late Syphilis in Parous and Nulliparous Women*

	Cases	Central Nervous System Involvement	Percentage
Parous	290	111	38.3
Nulliparous	106	39	36.7
Total	396	150	37.6

In the late group (table 4), 111 out of 290 cases, or 38.3 per cent of the parous group, showed cerebrospinal involvement, as against thirty-nine in 106, or 36.7 per cent in the nulliparous group.

A comparison of total pregnancies of patients with and without neurosyphilis has been possible in this series, and seems to shed an interesting light on the question of *protection afforded by repeated gravidity.*

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[6] Gellhorn, George: Influence of Syphilis upon Pregnant Women, Surg. Gynec. Obst. **32:** 535 (June) 1921.

[7] Augagneur: Prov. med. **7:** 37, 1892, quoted by Gellhorn.

[8] Rille: Deutsche med. Wchnschr. **30:** 624, 1904, quoted by Gellhorn.

[9] Winckel: Handbuch der Geburtshilfe **2:** 631, 1904, quoted by Gellhorn.

[10] Zweifel: Arch. f. Gynäk. **92:** 225, 1910, quoted by Gellhorn.

[11] Bertin, E.: Latent Syphilis and Pregnancy, Presse méd. **34:** 278-279 (March 3) 1926.

[12] Recamier: Congenital Syphilis Roused by Pregnancy, Ann. d. mal. ven. **20:** 515-517 (July 1) 1925.

From table 5 it may be seen that of 150 neurosyphilitic women there was a total of 370 pregnancies as against 578 pregnancies in 246 syphilitic women without cerebrospinal involvement. Expressed in terms of average pregnancies, this is 2.46 for the neurosyphilitic group and 2.35 for the group without central nervous system involvement. Further analysis shows no great disparity in the number of living children and stillbirths for both groups.

TABLE 5.—*Comparison of Number of Pregnancies and Results of Pregnancy in Late Syphilis With and Without Central Nervous System Involvement*

Diagnosis	Number of Women	Number of Pregnancies	Average Number of Pregnancies	Results of Pregnancy: Living Children No.	Results of Pregnancy: Living Children %	Results of Pregnancy: Stillbirths and Miscarriages No.	Results of Pregnancy: Stillbirths and Miscarriages %
Neurosyphilis	150	370	2.46	227	61.3	143	38.7
Late syphilis without central nervous system involvement	246	578	2.35	367	63.5	211	36.5
Total	396	948	2.39	594	62.7	354	37.3

From these figures in this group of cases, and based on our criteria, there would appear to be no protective influence caused by the pregnant state in the prevention of neurosyphilitic disease.

Moore[1] states that the greatest protection from neurosyphilis exists when the pregnancy occurs in the first year of the disease. The material at my disposal does not afford a fair criticism or comparison of this point, as in this group the history of primary and secondary lesions in women is so unreliable as to be completely disregarded. I have, however, noted occasional cases of acute cerebrospinal involvement coincident with pregnancy.

CONCLUSIONS

1. Cerebrospinal invasion and involvement in early syphilis is about equally divided between men and women.
2. Sex, therefore, does not appear to be a factor in the prevention of cerebrospinal involvement.
3. In this group of cases in early syphilis a much higher percentage of central nervous system incidence occurred in the parous group than in the nulliparous group.
4. In late syphilis the percentage of neurosyphilitic incidence in parous and nulliparous women is practically the same.
5. In the group of cases here studied, pregnancy did not seem to be a factor in the prevention of neurosyphilitic accidents.

ABSTRACT OF DISCUSSION

DR. J. E. MOORE, Baltimore: Since Dr. Belote does not clearly draw the distinction between clinical and asymptomatic neurosyphilis his figures are not exactly comparable to those which I published some years ago in a paper in which I stated that women were less likely to develop clinical neurosyphilis than men. I have reviewed in another connection the admission diagnoses of the 4,000 most recent admissions to the clinic, including almost precisely equal numbers of males and females. In this group of patients, 6.1 per cent of the males were diagnosed tabes, 2.9 per cent, general paralysis or taboparalysis, and 15.4 per cent had diffuse cerebrospinal syphilis. Of the females, only 1.5 per cent had tabes, 0.6 per cent taboparalysis or general paralysis, and 8.3 per cent diffuse meningovascular neurosyphilis. These figures are closely corroborative of those I published five years ago, and the two series now comprise more than 9,000 syphilitic patients. Thus, in my material parenchymatous neurosyphilis is four times as frequent in men as in women and diffuse meningovascular neurosyphilis twice as common. Approaching the subject from another angle, I am able to report the results of routine spinal fluid examinations in 1,216 patients with various forms of late syphilis but without clinical evidence of neuraxis involvement; of these, 565 were males and 651 females. The spinal fluid was positive in 17.7 per cent of the males and 11.6 per cent of the females. In the white race the difference in the percentage of asymptomatic neurosyphilis is small, 17.6 per cent of 295 males and 15.7 per cent of 190 females. Among negroes, positive fluid observations were present in 17.7 per cent of 270 males but in only 10.1 per cent of 461 females. As for clinical neurosyphilis, the same sex differences are apparent in the two races, though neurosyphilis of all types is considerably less frequent in negroes than in white persons. The most important feature of this problem is that though the nervous system may be invaded with equal frequency in the two sexes, as attested by the almost equal incidence of early asymptomatic neurosyphilis in males and females, women are much less likely to develop outspoken clinical neurosyphilis, especially of the parenchymatous type. There are many angles from which the question might be approached, and it is even possible that it may ultimately be of some importance in the treatment of syphilis. It is well worth while to review the subject in more detail and we are greatly indebted to Dr. Belote for giving us the impetus.

DR. JOHN H. STOKES, Philadelphia: I imagine the differences between the points of view of those of us who believe with Dr. Moore that pregnancy does have a definitely beneficent effect on the course of syphilis in the woman and the view supported by Dr. Belote from his experience could be reconciled by adopting a similar basis for comparisons. In such a case it would be necessary for Dr. Belote to explain a little more fully whether the pregnancies which he considers antedated the syphilitic infections of his women or postdated them. I do not think that any of us would contend that pregnancies antedating syphilitic infection would have any effect in reducing the severity of the disease in the female. The second point for discussion would concern Dr. Belote's distinction between invasion and involvement. Dr. Shaffer and I encountered precisely this problem in trying to classify neurosyphilitic involvement into grades and types, and came to the conclusion that nomenclature has many pitfalls here. Chesney and likewise Wile have, for example, shown that the spinal fluid may be what we call negative clinically, yet spirochetes may be present in the fluid. Our criteria, such as the Wassermann test, are therefore hardly criteria of involvement at all, but rather of reaction. It is perhaps a little early yet to say just what sign corresponds to what tissue reaction, but, once this problem is cleared up, a basis for a classification should appear that will make the results of Moore and Solomon, and of Belote, more nearly reconcilable.

DR. GEORGE H. BELOTE, Ann Arbor, Mich.: The diagnosis in this group of cases was based on laboratory observations, and consequently it is impossible to attempt to divide them into general paralysis, tabes, taboparalysis and meningovascular types, even if we desire to do so. It would require a great deal more study from a clinical standpoint and it could not be done with the material available at present. The question of race has been brought up. I am familiar with the work of Zimmerman and others and this may have some influence on my figures. Our clinic is almost entirely white. It is rather rare to see a colored patient. The question regarding the time of the pregnancy was answered during my first presentation. I said that in our material the history of primary and secondary lesions was so unreliable that we did not care to accept it so I cannot give information on that point. The question of invasion and involvement, of course could consume a great deal of time. I believe that all of these early cases are invaded and that sooner or later some of those will be involved. How many of them will depend on the treatment and the individual resistance of the particular patients, so I feel that it is proper to say that the early cases are invaded and some of them most certainly will later be involved.

PAIN

ITS VALUE; ITS ELUSIVENESS *

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The first step to successful treatment is a correct diagnosis. Pain, which is nature's semaphore, is an exceedingly important subjective symptom.

With modern methods of diagnosis pain, which is a purely subjective phenomenon, can almost be classed as an objective symptom. Often, for example, pressure might elicit pain, or movement might produce it; regardless of the stimulation, the questions of the precise nature of the pain, where and at what times experienced, are important factors, and however subjective the pain might be from the standpoint of the patient, its interpretation always presents to the physician a problem in objective diagnosis.

The experience of roentgenologists shows that the severity, persistence or total absence of pain are often at variance with the magnitude of the disease; also that many combinations or complications exist.

Roentgen-ray diagnosis often assists in explaining the cause of pain because it reduces the intangible to the tangible.

Pain as the initial or outstanding symptom is common to many pathologic conditions not always easy to differentiate. The first consideration should be to determine whether the condition is medical and amenable to medical treatment, or whether the pain indicates the onset of some serious surgical condition that may require operative relief. For instance, a number of nonsurgical conditions may cause upper abdominal pain, such as simple gastric indigestion, food or ptomain poisoning, or the ingestion of poisonous drugs or substances; or conditions above the diaphragm, such as pleurisy, pneumonia, pulmonary abscess or infarct, thoracic aneurysm, mediastinal inflammation or neoplasms, may produce pain in the upper part of the abdomen. It is therefore quite obvious that a method which can tangibly account for the pain is a valuable adjunct.

Diseases often present themselves in an atypical and bizarre manner: occasionally a pain syndrome is absent, or the pain is very severe or exaggerated from the standpoint of patient tolerance, or sometimes it is minimized by a hyposensitive individual.

There are many diseases in which pain is absent; so many complications and combinations, particularly in adult life, may coexist that one must be on the alert to recognize them because of their influence on one another, affecting seriously the prognosis or occasionally prohibiting a serious surgical intervention. It is quite proper to mention just a few of these diseases, namely, pernicious anemia, early sarcoma, and often carcinoma, in which pain is distinctly absent or mild and the termination fatal.

The foregoing remarks will impress one with the vagaries of that most important indicator of disease, pain.

Quite a few years ago I was impressed by the outcome of a case in which a roentgen-ray examination of a hip was made with negative results. Several weeks later, the knee on the same side was examined radiographically; here, too, the result was negative. About one month later a film of this patient's left pelvis, hip and entire femur was brought in for examination, and it was quite evident that we were dealing with a metastatic carcinoma involving the middle of the shaft of the femur. Two phases of this case were interesting: first, a history was not given by the attending physician of a previous breast amputation; second, as it is known that referred pain to the hip or knee joint is a frequent occurrence, an immediate examination of the whole bony structure of the lumbar spine, pelvis, hip, femur and knee on the affected side should have been made.

As a matter of common practice, a regional examination should be made. By so doing a roentgenologist can dignify his work by bearing in mind a differential diagnosis suggesting what roentgenographic procedures are necessary to enhance his own work and can place himself in the recognized position of consultant.

Another case of referred pain was presented by a patient who had been operated on for carcinoma of the breast with a subsequent epigastric pain. A tentative diagnosis of carcinoma of the stomach was made, but a complete gastro-intestinal examination revealed a normal stomach and a pathologic appendix.

Often a gastro-intestinal examination is made with negative result. However, should one observe a dilated aorta, an exploratory operation can be averted by entertaining the possibility of a tabetic gastric crisis; here, again, we see the disingenuousness of pain.

Aortitis is curiously interesting because the peculiar clinical symptoms, such as dyspnea, particularly on exertion, a sense of oppression in the chest and frequent sighing respiration, indicating air hunger, are early mainifestations common to numerous diseases, while pain and orthopnea develop later; and often how easy *it is to clarify the condition by a simple roentgen-ray* examination of the chest.

A swelling of any of the neck glands with or without pain should be accounted for by a neighborhood focal infection, which may be tonsillar, pharyngeal or dental in origin; or it may be obstructive, caused, probably, by a salivary calculus in the submaxillary gland; a Hodgkin's or primary blood disease, or a sarcoma.

An interesting case in which anticipatory events were considered showed a hard nodular mass about the size of a pigeon's egg at the angle of the right jaw, of about two months' duration, without pain. Roentgenographic examination of the chest revealed two typical sarcomatous nodules in the right lung; subsequent chest roentgenograms revealed numerous discrete metastatic nodules with ultimate death. The moral in this instance was the early certitude of a fatal outcome, thereby eliminating unnecessary surgical or medical treatment or deep roentgen-ray therapy.

Following right in line with a foregoing paragraph in which was mentioned the desirability of regional examination, two cases presenting some signs in common, namely, pains in both shoulders, typify the necessity for thorough roentgenographic study. In one case the chest showed a large aneurysm of the transverse aortic arch, while the other showed a marked hypertrophic spondylitis of the fifth, sixth and seventh cervical vertebrae, producing a pain syndrome of the brachial plexus. In both these instances, only the shoulders had been previously examined; and while this is quite proper, because it is sensible to examine the area apparently involved, one must look farther along the nerve trunks before a negative roentgen-ray report is *justifiable.*

A cough or so-called nasal catarrh should be given roentgenographic consideration from the standpoint of a sinus infection or some pulmonary lesion. It is a singular thing how often silent infections occur—called silent, because pain is absent. However, other symptoms, *whether subjective or objective, are present and* they should not be ignored.

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* Read before the Section on Radiology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

One patient with thyrotoxicosis made a poor recovery until a so-called chronic catarrh proved, on roentgenographic examination, to be an antral infection. Silent sinus infections occur frequently.

Fractures present an interesting phase because some serious cases frequently occur with little or no pain. I have had two cases of what proved to be impacted fractures of the hip in which both patients walked into the office; one used a cane, the other had no assistance whatever, and both protested the needlessness of a roentgen-ray examination.

Fractures of the smaller bones occur often with little or no pain and very little disability, and it is legally and therapeutically unsafe not to have a roentgenographic examination.

It occasionally happens that a fracture of the lower end of the tibia, particularly a spiral fracture, is accompanied by a compensatory fracture of the upper end of the fibula. The latter is frequently overlooked because the major pain and apparent injury are at or near the ankle joint.

It is unwise to examine the skull roentgenologically over the scalp wound area only, because of the well known contracoup fractures which happen only too often; in spite of the presence or absence of tender points and visible contusions one should always use a four way examination, at least.

A common experience of all roentgenologists is the frequent occurrence of pathologic dental conditions without any local pain; this, of course, is diametrically opposite to the experience of a dentist, because ordinarily a patient will consult a dentist for dental aches. Hence it is quite understandable why it has taken a long time to drive home to the dental profession the actuality of dental infections as direct or contributory causes of disease processes elsewhere.

By way of an opposite illustration, a thorough roentgenographic examination of an acute fulminating osteomyelitis will be valueless, because a time interval is necessary to produce demonstrable bone changes; in the meantime, the surgeon will be obliged to make a clinical diagnosis and proceed with the necessary medical or surgical intervention, because waiting for roentgen-ray confirmation might be disastrous to the patient.

Intermittent claudication is a little nicety in roentgenographic diagnosis, because an arteriosclerosis of the blood vessels of the ankle and foot often can be demonstrated.

Hypertrophic arthritides may or may not be painful. It happens frequently that when both knees are roentgenographed the one showing the most changes might at the moment be painless, although considerable pain was present sometime past, while the knee that is most painful at the time shows little or no pathologic change. But if this knee is examined at a later period, distinct pathologic change may be evident, and pain may be considerably subdued or absent, or may continue to be severe.

Gastro-intestinal roentgenographic examinations offer a fruitful field explaining many abdominal aches. Anomalies in position are of such frequent occurrence that a diagnosis based on external topography is not permissible, because many of these variations can be determined prior to the laparotomy, thereby in a great measure displacing an exploratory operation. Abnormal peritoneal rotation, descent and fixation may occur, making the stereotyped diagnosis of appendicitis a somewhat obscure case. All roentgenologists have experienced the fact that an appendix might be anywhere in the abdomen, and as the case might even be one of complete transposition, depending on pain at McBurney's point will lead one into error.

An instance of multiple pathologic changes as determined roentgenologically explained a complete clinical history. The principal features as described and experienced by the patient were sudden pain in the lower left half of the chest coincidental with strenuous lifting, the presence of a previously unnoticed tumor in the left hypochondriac region, and dyspnea, which has continued to this day, a total duration of four months. Pain has been more or less continuous and is now accompanied by abdominal pains on the left side. Clinically, a diaphragmatic hernia was seriously considered. [illegible], a chronic subdiaphragmatic pleurisy with adhesions was demonstrated, complicated by multiple diverticulitis of the ascending and descending colons. The cecum and the ascending colon were situated in the left iliac region, while the hepatic flexure was located in the customary area. The tumor mentioned earlier turned out to have been a lipoma; close questioning elicited the fact that it had been present for a long time, so it had no direct bearing on the present condition other than to confuse the issue.

In a case that illustrates the necessity for discretion, the patient complained of severe backache low on the right side; roentgenographically, a deformity of the third, fourth and fifth lumbar vertebrae was apparent; the right halves of the bodies were smaller than the left, especially the fourth; the right transverse process of the latter was small; a crow's beak osseous deposit about one-half inch in length protruded to the right, and articular facets appeared poorly developed. Clinically, the condition was diagnosed as relaxed ligaments with preternatural mobility. An Albee transplant was advised. The patient was exceedingly reluctant to have this done and wisely so, because an eventual roentgenologic diagnosis of chronic appendicitis was made and total relief obtained. The appendix, the terminal ileum, the cecum and the bladder wall were extensively involved in adhesions, which, when modified, released the peritoneal pull over the psoas muscle, thereby relieving the intense backache.

All roentgenologists have seen many cases in which pain or the absence of pain assisted in either proving or disproving a clinical diagnosis, which syndrome could be explained by a thorough roentgenologic examination, and while this paper, in a measure, appears inappropriate before this section, an occasional repetition or amplification seems desirable to bring before us the sureties, as well as the pitfalls, because in spite of the instruments of precision we now have, judgment and experience are enhanced by the unusual incident rather than by the usual.

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Local Epilepsy.—The symptoms of local irritation of the brain are generally, in contrast to those of destructive lesions, paroxysmal or episodal. All the evidence we possess goes to show that these symptoms occur only when the gray matter is involved, and never when the white matter is alone affected. Further, they appear mainly when the cerebral cortex is excited; we have no convincing evidence that they result from disease of the basal ganglia or of the gray matter of the brain stem or spinal cord, though epileptiform phenomena have been observed with disease and experimental excitation of the pons varolii.—Holmes, Gordon: *Lancet,* May 7, 1927.

SOME OBSERVATIONS REGARDING DIPHTHERIA IMMUNITY *

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During the earlier days of our experience with the guinea-pig test for diphtheria immunity, we were Schick testing and immunizing with toxin-antitoxin many children in various schools and institutional groups. Many comparative tests were made, some of the earlier ones having been previously reported.[1] Primary tests by the two methods were found to agree, except for discrepancies explainable by the influence of protein reactions in obscuring the correct reading of the Schick test. Later, through the accidental inclusion of some children who were Schick negative following toxin-antitoxin immunization, in a group having blood specimens taken, it was noted that some of these gave negative Schick tests and positive Kellogg tests. The latter test is gaged to detect antitoxin in the blood in quantities of one-thirtieth unit per cubic centimeter or more, the amount generally accepted, following the work of Schick, as protective. It is performed by adding to 0.1 cc. of the blood serum 0.1 cc. of a dilution of diphtheria toxin representing $^1/_{300}$ L + dose. The mixture is allowed to stand for the combination of toxin with antitoxin and is then injected into the shaved skin of a white guinea-pig. If the serum contains exactly one-thirtieth unit a red reaction will appear, but it does not go on to necrosis. If there is no antitoxin or if the amount was definitely smaller than a thirtieth, necrosis will result. Amounts larger than one thirtieth do not give any reaction at all.

The sharpness of reaction and quantitative accuracy of the method are due to the fact that the toxin for the test is measured on its L + or combining value with antitoxin and not on the toxic or minimal lethal dose value, as is the toxin for the Schick test. If the serum being tested should contain exactly one-thirtieth unit of antitoxin per cubic centimeter, the one tenth used in the test would contain $^1/_{300}$ unit. This $^1/_{300}$ unit will neutralize the $^1/_{300}$ L + of toxin used except for a margin of $^1/_{300}$ minimal lethal dose. This small amount will produce a red reaction, which stops short of necrosis, on the skin of the guinea-pig. If, however, the serum should contain, we will say, only one-sixtieth unit of antitoxin per cubic centimeter, half the toxin will be left free and this is a necrosing dose, as may be appreciated when consideration is given to the relation between the L + dose and the minimal lethal dose.

If a toxin containing 100 minimal lethal doses to the L + dose were used for testing, we would have in the foregoing example free in the mixture

$$\frac{100\text{ M. L. D.}}{300\text{ doses}} \div 2 = \frac{1}{6}\text{ M. L. D.}$$

A toxin with only a fifth of this minimal lethal dose value, which would be an extreme case, would still leave one-thirtieth minimal lethal dose free, a necrosing dose for the guinea-pig. Variations in the antitoxic content of serums, therefore, of only $^1/_{100}$ unit per cubic centimeter either way from the standard of one thirtieth are characterized either by necrosis or by absolute lack of reaction. The Schick test, also, is expected to give a negative reaction in the presence of one-thirtieth unit per cubic centimeter but not of much less than that; certainly not when the amount is as small as $^1/_{100}$ unit. It is performed by injecting intradermally one-fiftieth minimal lethal dose of toxin into the skin of the person tested, and a negative reaction, indicating immunity, has always been explained as being due to the presence of antitoxin in the circulating blood.

The occurrence cited, of negative Schick reactions in persons not showing antitoxin by the Kellogg method, has been noted only in persons, originally Schick or Kellogg positive, who have later received a course of toxin-antitoxin injections. The discrepancy in the comparative results of these two tests in certain persons raised the question of the true mechanism of the negative Schick test as well as of the immune status of these persons; in fact, it suggests that immunity to diphtheria may not rest solely on an antitoxic basis. The direct titration of antitoxin on the sensitive guinea-pig skin is so dependable and uniform that the question of the possible presence of a neutralizing quantity of antitoxin, notwithstanding the positive guinea-pig test, does not enter into consideration at all as an explanation for these aberrant Schick tests.

The state home for the feebleminded at Eldridge afforded a favorable field for investigation as the superintendent, Dr. F. O. Butler, had requested our aid in eliminating diphtheria from his institution and we had Schick tested all the inmates, about 1,600, preparatory to immunization. A group of seventy of those originally Schick positive, who were later immunized and then Schick tested seven months afterward and found negative, was selected for further testing by both methods. The negative Schick tests had been obtained fourteen months preceding this special test. Of the seventy individuals, all were found to be still Schick negative, but seventeen were Kellogg positive. While the latter test is adjusted, as already explained, to show whether a serum contains either more or less than one-thirtieth unit per cubic centimeter, quantities as small as $^1/_{100}$ are shown; and these seventeen positives all contained either no antitoxin or amounts less than $^1/_{100}$ unit. Ten of these seventeen persons had required two series of immunizations before giving the negative Schick reaction which placed them in our series.

The high percentage of this group requiring a second series of immunizing injections is accounted for by their ages. Our records of immunizations show that, in the age group of 16 and over, 45 per cent require two series of injections of toxin-antitoxin. The parallel tests were made in May, 1925. In March, 1926, ten were given another parallel test, three showing negative by both tests, the others continuing positive by the Kellogg and negative by the Schick method. In May, 1926, six of the subjects (numbers 1, 2, 5, 6, 14 and 16) were tested and four were positive by the Kellogg and also by the Römer method, the latter being adjusted to show $^1/_{500}$ unit of antitoxin. Of these four, three at the same time showed $^1/_{1000}$ unit of antitoxin by the Römer test and one showed not even this trace. The other two had a few days before been given, through a misunderstanding, a series of toxin-antitoxin injections and were now negative by all tests. The Römer method was applied in an effort to determine whether small amounts of antitoxin might be present, even though too little to account for a Schick negative reaction. This proved to be the case in three, but not in the remaining one of the four that were tested for $^1/_{1000}$ unit.

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* Read before the section on Pathology and Bacteriology of the California Medical Association, Los Angeles, April 28, 1927.

[1] Kellogg, W. H.: A Test for Diphtheria Immunity and Susceptibility, J. A. M. A. **78**: 1782-1783 (June 10) 1922. The Intracutaneous Guinea-Pig Test (Kellogg) for Human Susceptibility and Immunity to Diphtheria, ibid. **80**: 748-750 (March 17) 1923.

The table shows the record of the six individuals just referred to, from the date of the second parallel test down to the end of the record. To test the observation of Glenny and Allen[2] and O'Brien[3] that even as small a secondary stimulus as the Schick test will sometimes give rise to titratable amounts of antitoxin in those individuals previously given toxin injections, all this group except subject 14 were again bled for tests and Schick tested at the same time, Oct. 11, 1926. The one that in the preceding test had given a Kellogg negative (subject 6) had lost his antitoxin, two of the others showed some antitoxin but less than one thirtieth and the other two continued as before, Kellogg positive and Schick negative. Seven days later these two were still Kellogg positive, subject 6 had become negative again, while subject 16 tested as before. The third bleeding was done thirteen days later, October 31, at which time subjects 1 and 2 had become negative, 5 and 6 continued negative, and 16 was also definitely negative, thus confirming the English authors. As shown by the table, subjects 1, 2 and 16 had in the meantime received one dose of toxin-antitoxin. A fourth guinea-pig test three months later showed subject 2 still negative, subject 1 with about 1/100 antitoxin and subject 6 definitely positive; subject 16 had about 1/100 unit antitoxin. This shows that the presence of free antitoxin in this class of persons is temporary, although it seems possible by persistent treatment to establish a more permanent antitoxic immunity. Another group was selected, consisting of persons, twenty-eight in all, who never had been Schick tested but who had been identified as nonimmunes by the Kellogg test and treated with two series of toxin-antitoxin injections following two successive positive Kellogg tests. All this group gave negative Schick tests, April 24, 1926, and all but five, adults, gave negative Kellogg tests. The five positives were given two days later 1 cc. of toxin-antitoxin mixture; blood was taken nine days later and tested by both the Kellogg and the Römer (1/500) methods. The Römer test was negative in all, showing at least 1/500 unit of antitoxin; the Kellogg negative in two, showing at least 1/30 unit; it showed about 1/100 in another, and was definitely positive in the remaining two. The stimulating action of a small quantity of toxin was again shown, and the percentage of persons in the group so reacting was about the same as in the larger group first discussed.

It is evident that a properly performed Schick test with potent toxin may at times result negatively in persons who have no, or at most only traces, of antitoxin in their blood. We believe that such persons have a form of latent immunity, being capable of quickly producing antitoxin under the stimulus of exposure to toxin. The question arises as to the explanation of the negative Schick test in these latently immune individuals; is it due to a rapid local production of antitoxin, preceding a general outpouring into the blood stream, or is it possibly not a toxin-antitoxin reaction at all? We do not have an answer at present, but it may be observed that these persons may possibly be immune entirely aside from their latent ability to produce antitoxin. Coca, Russell and Baughman,[4] in discussing the natural immunity of the rat to diphtheria toxin, suggest an analogy to the immunity of ox cells to cobra hematoxin in the presence of electrolytes with vulnerability in isotonic sugar solutions without electrolytes, the difference being apparently due to a physical condition of the cells permitting passage of the toxin in one case but not in the other. The observation has more than once been made[5] that carriers of virulent diphtheria bacilli may be Schick positive, showing that they are protected in some way other than the presence of antitoxin in the blood. This other mechanism may be a mere matter of integrity of the epithelial layer or it may depend on some form of specific local cellular immunity, as mentioned. Attempts were made to demonstrate the presence of antitoxin in the cutaneous tissues of these subjects by shaving off layers of skin, about a square inch from each, grinding it up with sand and salt solution and testing for antitoxin on guinea-pigs, but without success. Other tests were made by macerating the ground skin with dilute solutions of toxin to see whether contact with epithelial cells would in some way inactivate the toxin, but this also was a failure. One of us[6] noted the occurrence of varying reactions to the Schick test in the same individual at the same time; a group of eleven adults had two Schick tests placed on each arm, one above and one below the elbow. In one case a protein reaction was noticeable on the forearm, with no reaction at all on the arm. In two cases, very severe positive reactions occurred on the forearm and a very slight reaction on the arm. In another person this arrangement was reversed. Variation in susceptibility to cutaneous reactions in different areas of body surface was therefore shown and the interesting question arises, What would be the result of multiple Schick tests on various parts of the bodies of the individuals who contributed the material for this discussion?

The peculiar fact that persons who are naturally Schick negative (primary Schick tests), assuming of course that the operator is experienced and the toxin potent, are always also Kellogg negative and that negative Schick reactions in the absence of free antitoxin occur only in those artificially immunized, suggests a difference in the mode of acquisition of antitoxin in the

*Record of Six Persons Selected from the Original Group**

	March, 1926		April, 1926,	May, 1926			Oct. 11, 1926		Oct. 18,	Oct. 22, 1926,	Oct. 31,	February, 1927	
	Schick	Kellogg	Toxin-Antitoxin	Kellogg	Römer 1/500	Römer 1/1000	Schick	Kellogg	1926, Kellogg	Toxin-Antitoxin	1926, Kellogg	Kellogg	Römer 1/500
1	—	+	..	+	+	—	—	+	+	1 dose	—	± (1/100)	—
2	—	+	..	+	+	—	—	+	+	1 dose	—	—	—
5	—	+	3 doses	—	—	..	—	—	..	..	—	..	..
6	—	+	4 doses	—	—	..	—	+	—	..	—	..	..
14	—	+	..	+	+	+	..	..	..	..	..	..	..
16	—	+	..	+	+	—	—	± (1/30)	± (1/30)	1 dose	—	± (1/100)	..

* The plus sign means reaction on the guinea-pig, indicating no antitoxin in the amount tested for. The minus sign means no reaction, therefore antitoxin present.

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[2] Glenny, A. T., and Allen, K.: The Schick Dose of Diphtheria Toxin as a Secondary Stimulus, J. Hyg. **21**: 104 (June) 1922.

[3] O'Brien, R. A.: Immunity Produced by the Schick Test, J. Path. & Bact. **29**: 320, 1926.

[4] Coca, A. F.; Russell, E. F., and Baughman, W. H.: The Reaction of the Rat to Diphtheria Toxin, J. Immunology **6**: 387 (Nov.) 1921.

[5] McGuire, P. F., and Hitchens, A. P.: Epidemiologic Survey in a Citizens' Military Training Camp, J. A. M. A. **80**: 665 (March 10) 1923.

[6] Kellogg, W. H.: Should the Schick Test Be Abandoned? Am. J. Pub. Health **15**: 868-872 (Oct.) 1925.

two classes. In the latter group, free antitoxin is a variable factor, disappearing quickly only to reappear on occasion of a new stimulus. It would seem that if persons who naturally are Schick negative had acquired their antitoxin by exposure to small doses of the antigen over a period of time, they should behave in the same way and the fact that they do not may mean that their antitoxin is a physiologic property akin to that of the natural antibodies of ambocepter nature so universally present in animal bloods.

SUMMARY

1. The Schick test and the guinea-pig test for diphtheria immunity give parallel results in primary tests.
2. In persons who have been immunized with toxin-antitoxin and a negative Schick test obtained, some show no antitoxin by the Kellogg method; in our series it was from 20 to 25 per cent.
3. Most of these show traces when tested for small amounts by the Romer method, but a few do not show any at all.
4. These persons are latently immune, because they quickly develop antitoxin in titratable amount if given a secondary stimulus in the form of a single injection of toxin-antitoxin and at times even as small a stimulus as the Schick test.
5. There is an essential difference in the permanence of the free antitoxin in the circulating blood of the naturally immune and those artificially immunized. This difference, together with the fact that the naturally immune as shown by the Schick test always have free antitoxin while the artificially immune do not always have it, suggests that natural immunity may not exist solely by reason of exposure to infection, but may be, in part at least, a physiologic occurrence.

THE BACTERIOLOGY OF WHOOPING COUGH *

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In 1906, Bordet and Gengou[1] succeeded in cultivating *Bacillus pertussis* from cases of whooping cough Since their pioneer discoveries, isolated reports of a few cases each have been published, but in this country routine cultures in cases of whooping cough have had little vogue.

The work of Meyer, Chievitz[2] and their co-workers at the Danish Serum Institute has demonstrated conclusively the value of bacteriologic methods in the diagnosis of this disease, and their studies, now extending over a number of years, have been too little appreciated in the United States. In a report covering 1,106 cases they were able to isolate the causative organism in 970, a percentage of 87.7 isolations. Dividing these cases into groups according to the stage of the disease at the time cultures were taken, their success may be tabulated as shown in table 1.

In the United States, reports on the bacteriology of the disease have been few. Povitzky[3] has isolated eighteen cultures from fifty-five patients, the majority of the cultures being obtained in the early weeks of the disease. Wollstein[4] succeeded in obtaining five positive cultures in twenty cases. Williams, Wilson, and Mishulow[5] obtained twenty-seven positive cultures in a series of 187 cases.

TABLE 1—*Percentage of Successful Isolation of Causative Organism of Whooping Cough by Danish Workers*

Catarrhal period	75%
First week of the whoop	57%
Second week of the whoop	61%
Fourth week of the whoop	40%
After fourth week of the whoop	9%

During the winter and spring of 1925-1926 the Commission for the Study of Whooping Cough had ample opportunity to study the disease from many angles at the clinic established at the On-Shore Department of the Boston Floating Hospital. The purpose of this report is to give the results there obtained so far as they concern the bacteriology of the disease.

We feel constrained to set forth a somewhat detailed description of the medium and of the technic employed in this study, as some previous articles have been lacking in a presentation of these important details, while others have reported mediums which in the light of present knowledge are unsatisfactory.

CULTURE MEDIUM

The medium which we employed throughout this study was the original Bordet-Gengou medium, with certain modifications that seemed advisable from the previous experience of one of us. The following method of making this medium was employed:

> Five hundred grams of potato is passed through a coarse meat grinder and added to 1,000 cc of water and 40 cc of glycerin. This mixture is shaken well and placed in an Arnold sterilizer for one hour. The resulting extract is pressed through cheese cloth in a small press, and to every 500 cc of the resulting fluid 1,500 cc of 0 6 per cent salt solution and 50 Gm of agar are added The medium is sterilized in the Arnold steam sterilizer for one hour periods on three successive days

The fractional method of sterilization was substituted for the more destructive process of autoclaving, as the latter seemed to decrease to a greater extent the growth promoting vitamin substance of the potato. Comparative plates made with mediums sterilized by these two methods showed a more luxuriant growth on the Arnold sterilized medium.

Following the third heating, the medium was cooled to 42 C., from 5 to 10 per cent of blood was added, and, after a gentle mixing, thin plates were poured. Fresh citrated horse blood was used in all our work. Rabbit blood and human blood have, in the hands of some, proved more effective enriching substances, but their use in such an extended series as ours seemed impracticable. It was found that the best results were obtained by the use of blood not more than 72 hours old When the blood was kept for a longer time even at icebox temperature, not only did the plates hemolyze spontaneously, but the growth of *Bacillus pertussis* was considerably less luxuriant than on plates made with fresh blood. For further studies we should recommend that defibrinated blood take the place of citrated blood, for in dealing with an organism so fastidious as *Bacillus pertussis* the sodium citrate may have an inhibitory effect even in the high dilutions practically employed.

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[1] Bordet, J., and Gengou, O · Le microbe de la coqueluche, Ann de l'Inst Pasteur. **20:** 731 741, 1906

[2] Chievitz, I , and Meyer, A H · Recherches sur la coqueluche, Ann de l'Inst Pasteur **30:** 503 524 (Oct) 1916; Further Investigations on Whooping Cough, Ugesk f Læger **78:** 1443 1456 (Aug 24) 1916 Meyer, A. H. Communications on the Examinations for the Diagnosis of Whooping Cough at the Serum Institute of the State, Acta Paediat **1:** 99-104 (March) 1921. Researches on Whooping Cough in the State Serum Institute, Ugesk. f. Læger. **83:** 523 525 (April) 1921. Madsen, T Whooping Cough. Its Bacteriology, Diagnosis, Prevention and Treatment, Boston M & S J **192:** 50 60 (Jan) 1925

[3] Povitzky, Olga R.. Improved Methods for the Isolation and Later Cultivation of B Pertussis, J Infect Dis **32:** 8 21 (Jan) 1923

[4] Wollstein, Martha· The Bordet Gengou Bacillus of Pertussis, J. Exper. Med **11:** 41 54, 1909

[5] Unpublished report, cited by Povitzky

Before the addition of blood, the reaction of the Bordet-Gengou medium ranges from p_H 5.8 to p_H 6.4. The optimum reaction for growth is said by Povitzky to be at p_H 5.0, with the limits of the acidity favorable for growth from p_H 4.4 to p_H 6.1. Povitzky added blood to her medium to make a final concentration of 25 per cent. Referring to the titration of the medium, she states that "these tests were made before the addition of blood, and the reaction may, therefore, have been changed slightly by the blood." That this change is more than slight will be seen by an examination of table 2, in which we have given the results of titration of the medium after the addition of serum which, in its buffering action, is quite comparable to whole blood. Starting with the Bordet-Gengou medium adjusted to various degrees of acidity, serum to make a final concentration of 5, 10, 25, and 50 per cent was added, and the reaction again determined by the colorimetric method.

Table 2.—*Results of Titration of Medium*

Reaction of the Medium Before the Addition of Serum	Reactions After the Addition of Serum			
	50%	25%	10%	5%
p_H 7.0	7.4	7.4	7.3	7.2
Unadjusted (6.2)	7.3	7.2	7.0	6.8
5.5	7.3	7.1	6.8	6.6
5.0	7.2	7.0	6.7	6.4
4.5	7.1	6.8	6.6	6.2

From table 2 it can be seen that the optimum reaction range for growth in the final medium is not p_H 4.4 to p_H 6.1 but rather p_H 6.6 to p_H 7.3. This reaction is approximated with sufficient accuracy by adding to the unadjusted Bordet-Gengou medium enough blood to make the final concentration 5 or 10 per cent. If an equal volume of blood is added, as was at first recommended by Bordet, it matters little whether the initial p_H is 4.5 or 7.0; the final reaction will be above p_H 7.0.

METHODS OF OBTAINING CULTURES

The methods of taking cultures deserve a word of mention. Nose and throat cultures taken in the usual way have not, in our hands, proved of value. In no case were we able to obtain a growth of *Bacillus pertussis* from material from these sources although cultures were taken from more than a hundred whooping cough patients and an even larger number of suspects. There are two effective methods of obtaining cultures, each of which has its advantages and its disadvantages. One of these methods consists in inoculating Bordet-Gengou plates with the sputum. The sputum is collected in a clean cup or other convenient receptacle and is carefully inspected. One soon learns to discriminate between the thin mucus from the mouth and throat and the thicker, more tenacious exudate which is expelled from the trachea and bronchi, and which is the material desired for transplantation. A bit of this thick mucus is taken up on a platinum loop and washed thoroughly in three baths of sterile physiologic sodium chloride solution. After the third washing the sputum is plated on Bordet-Gengou plates, care being taken to insure a light and fairly even distribution of the material over the entire plate.

The second successful method of obtaining cultures is to hold an open plate of the medium about 5 or 6 inches in front of the patient's mouth during a paroxysm of coughing, rotating the plate slowly to insure an even distribution of the expelled droplets on the surface of the medium. This method of obtaining cultures was introduced by the Danish workers, and in their hands, as well as in ours, has proved most effective. It is a method that might well lend itself to trial in respiratory diseases other than whooping cough.

The direct plating of the washed sputum has the advantage that it is usually a more reliable index as to the presence or absence of *Bacillus pertussis* than is the cough plate method. Table 3 gives the results in those cases in our series which were simultaneously investigated by the two methods.

Table 3.—*Results with both Methods of Plating*

Cough plate positive, sputum positive...............	29
Cough plate positive, sputum negative	3
Cough plate negative, sputum positive	14

Without explanation the figures in table 3 are perhaps a bit misleading, because many of our cough plates were not sufficiently exposed. The psychic influence of a bright red plate suddenly held in front of a child's face sometimes checks the paroxysm before a satisfactory exposure can be made. Confirmation of this influence is found in the request of several mothers who came to the clinic asking that their children have the "red glass" treatment. Many of our cough plates which we realized at the time were poorly exposed, and so labeled them, are included in the table.

The cough plate method, on the other hand, possesses several distinct advantages. Aside from the economy in time and materials, it has the added value of being applicable in cases in which sputum cannot be obtained. Infants and young children are prone to swallow their sputum, and in the cases coming to the clinic in the catarrhal period there is no expectoration, so that in these cases the cough plate method is of prime importance. Occasionally, too, children who are old enough to cooperate can be made to inoculate a plate in a satisfactory manner by a series of deep voluntary coughs.

Stained smears of the washed sputum are of little value. *Bacillus influenzae*, which is present as a secondary invader in many cases of whooping cough, cannot be differentiated from *Bacillus pertussis* in such a preparation. As a matter of interest, chocolate agar plates and clotted rabbit's blood were seeded with washed sputum from patients with whooping cough. In twenty-two of a total of forty-six cultures so made (48 per cent), *Bacillus influenzae* was found to be present.

Bordet-Gengou plates seeded by either of the foregoing methods are incubated at 37 C. for varying lengths of time. In twenty-four hours, growth is usually not visible to the naked eye. In forty-eight hours there may be seen tiny, pearly gray, translucent colonies, raised above the surface, regular in outline, resembling a minute drop of mercury. There may also be a faint, hardly discernible area of hemolysis around the colony. After seventy-two hours' incubation the colonies usually double in size and there is no difficulty in making out the surrounding hemolyzed area. The colonies are translucent, in contradistinction to those of saprophytic organisms, which are opaque and brownish. Rarely, the colonies of *Bacillus pertussis* appear only after four or five days' incubation, so that daily examination of the plates for a period of five days is necessary before a culture can with certainty be pronounced negative. This long period of incubation is troublesome, and attempts have been made to curtail this in order that reports of cultures might be available in a shorter time. Slight alterations in the constituents of the medium, additions of ascitic fluid and other enriching substances, incubation of the cultures in a partial atmosphere of carbon dioxide, and incubation under partial anaerobiosis have all been tried without success.

Cultures taken in the catarrhal period or during the first week of the whoop will usually show a large number of characteristic colonies per plate. Later in the disease the number of organisms gradually diminishes, and only occasional colonies appear on the plates.

As a means of identification of suspected colonies on the primary plates, two general methods are applicable. The organism is transplanted to Bordet-Gengou medium, to chocolate agar, and to plain infusion agar. If the organism is a gram-negative bacillus of proper morphology and grows only on the Bordet-Gengou medium, it is *Bacillus pertussis*. Another simple method of final identification is a microscopic agglutination test with pertussis antiserum, normal serum being used as a control. This can be done by fishing a single colony, emulsifying it in salt solution, and mixing this emulsion with a drop of each of the serums diluted 1:10 in the case of the normal serum, and 1:100 in the case of the specific antiserum.

RESULTS OF THE APPLICATION OF THESE METHODS

From October, 1925, to June, 1926, we examined cultures from 1,115 suspected cases, contacts, and patients with whooping cough. Most of these cultures were taken at the clinic of the Boston Floating Hospital and in its wards. Several local pediatricians sent us cultures for examination, and we investigated several school and institutional outbreaks. Of these 1,115 cultures, 259, or 23 per cent, showed the presence of *Bacillus pertussis*. It must be borne in mind that many of the cases the data from which we have included in the foregoing figures subsequently proved to be respiratory diseases other than whooping cough. From this series of cases complete records are available on 533 cases of proved whooping cough, 219 of which showed *Bacillus pertussis*. We have been able to isolate the organism as early as twenty-four days before the onset of the whoop (three cases). The latest positive culture was taken on the sixtieth day of the disease or the thirty-sixth day of the whoop.

In table 4 these figures are tabulated according to the stage of the disease in which the cultures were taken. Although the percentage of positive cultures is somewhat less than in the reported cases of Meyer and his co-workers, in the two series the general downward trend of the number of positive cultures as the disease progresses is the same.

As shown in table 4, *Bacillus pertussis* has been isolated from a number of patients who never whooped. Ten of these patients were seen at the clinic, while nine were patients of local physicians who had kindly taken cultures and brought them to our laboratory for examination. Just as we have "scarlatina sine exanthemate" and cases of other infectious diseases which are never diagnosed, either because of their mildness or because the symptoms have been masked by prophylatic vaccination or serum treatment, so we have in children exposed to whooping cough a mild type of the disease which might well pass as a common cold were bacteriologic studies not instituted.

A word of warning concerning the use of pertussis vaccine as a prophylactic may well be interpolated here. Vaccine treatment, if instituted early in the incubation period, will in many cases, prevent the disease entirely. In others the disease manifests itself, as in the catarrhal stage of whooping cough, by the symptoms of a common cold. These children do not whoop, and the parents, thinking that the disease has been prevented, allow the child its accustomed freedom at a time when, as demonstrated by bacteriologic studies, it is a potential source of infection to others.

Three cases have been purposely omitted from the discussion in the preceding paragraph as they rightfully deserve separate mention. These patients had had whooping cough two four and five years previously and came to the clinic because of severe colds following exposure to other members of the family who had come down with the disease. Cultures taken from all three of these patients showed *Bacillus pertussis*. As they began to cough from six to thirteen days after the first exposure, we have assumed that we were dealing with true instances of second attacks, and not with carriers. Although we cannot offer statistics at this time, we are of the opinion that second cases of whooping cough are not the rarity that clinicians would have us believe, and that when second attacks occur they usually take a mild form, sometimes without the characteristic whoop. In this connection, five mothers who had colds at the time their children were being treated in the clinic were examined for the presence of *Bacillus pertussis*. In one of these patients, who had had whooping cough twenty-two years before, we were able to isolate an almost pure culture of the organism During the second attack she had a troublesome cough but never whooped or vomited. She was the probable source of infection in her two children, who had suggestive coughing attacks at the time of their clinic visit but did not whoop till four and seven days later.

Table 4—*Percentage of Successful Isolations of Causative Organism of Whooping Cough by Authors*

Stage of the Disease	Number of Patients Examined	Number of Positive Cultures	Percentage of Positive Cultures
Catarrhal period	91	54	59
First week of whoop	90	48	53
Second week	207	69	33
Third week	47	18	38
Fourth week	34	5	15
Fifth week	16	1	6
After the fifth week	25	1	4
Patients who never whooped	23	23	..
Total	533	219	Average, 41

PERIOD OF INFECTIVITY

All clinicians are agreed that the most infectious period is during the catarrhal stage of the disease. Generally speaking, none of our quarantine regulations cover this period, which, from an epidemiologic point of view, is more important than any other. In this country, quarantine of whooping cough usually lasts for four weeks after the whoop manifests itself, and in some towns local regulations require that the patient must have stopped whooping before being released from quarantine. All these requirements are based on the empiric observations that new cases of the disease do not develop following a period of isolation of four weeks or longer. We feel that in many instances this lengthy quarantine is unjust and irrational, failing as it does to protect the community from infection during the catarrhal stage, and keeping the patients needlessly isolated when they are no longer a source of danger. In theory at least, a quarantine period of thirty days from the onset of the first catarrhal symptoms would be ideal. Such a program, could it be practically instituted, would control 94 per cent of all possible spreaders of the disease, whereas present regulations control only about 62 per cent or less. That such a program is not impossible has been demonstrated by the town of Needham, Mass., which during the winter of 1925-1926 conducted a school for whooping cough patients, and another for contacts who had not manifested symptoms of the disease.

Release cultures as taken in diphtheria might play a rôle in the curtailment of an overlong quarantine period in hospital and institutional practice. Because of the technical difficulties involved, particularly the necessity of employing freshly prepared medium, we do not at this time recommend its general use, but in the case of contagious disease hospitals it would prove a valuable aid. To illustrate this point we offer the following data: In twenty cases of whooping cough admitted to the wards of the On-Shore Department of the Boston Floating Hospital, in which we were able to take repeated cultures under ideal conditions, no negative cultures were obtained till the eighth day of the whoop. After the eighth day the positive cultures became fewer, and after the seventeenth day positive cultures could not be obtained.

Table 5.—*Cultures Obtained in Ten Cases of Whooping Cough*

Case	Cultures Positive*	Cultures Negative*
1 .	—5, —3	1, 10
2 .	—4	13
3	—5	1, 6, 13
4	—2	6, 8
5	—2, —1, 1	11
6	—21, —22	—6, —3
7.	—21	—9, —2
8 ..	—21	—9, —2
9. .	—3	1, 6
10	—16, —9, —7	2, 5

* The figures in these columns refer to the number of days before or after the whoop. Thus —5 becomes five days before the whoop, and 10 becomes ten days after the whoop began

Analysis of the clinic cases enables us to select fifty-one patients from whom several cultures were taken at various stages of the disease. The observations do not lend themselves to tabulation, but they show that children previously shown to harbor *Bacillus pertussis* may give negative cultures early in the disease. Table 5 presents the data in ten of these cases in which the cultures were positve in the catarrhal period and subsequently became negative.

Twelve cases yielding positive cultures up to the seventh day of the whoop became negative on an average on the fourteenth day of the whoop.

Twenty-two cases positive up to the fourteenth day of the whoop became negative on an average on the twentieth day of the whoop.

Five cases positive up to the twenty-first day of the whoop became negative on an average on the twenty-sixth day of the whoop.

While the infectious period is in only a small percentage of cases more than thirty days from the onset of the disease, or more than twenty days from the time when the whoop manifested itself, we feel that in the majority of cases the infectious period may be considerably less than this maximum and can be determined only by carefully conducted bacteriologic studies. No method has as yet been devised to measure the virulence of *Bacillus pertussis* or the susceptibility of the patient to this organism. When we possess such information, much can be accomplished. It may well be that organisms isolated in the later stages of the disease are incapable of infecting a susceptible individual, as attenuation of the virulence of organisms in the animal body is by no means rare.

CLINICAL APPLICATION OF BACTERIOLOGIC METHODS

During an epidemic the clinician is often faced with the problem of deciding whether a child with catarrhal symptoms has whooping cough or is merely a victim of a common cold. Heretofore the only laboratory aid in making a tentative diagnosis of the disease has been the leukocytosis and the increase in lymphocytes which in many cases accompanies the catarrhal stage of whooping cough. On the basis of single cultures taken for diagnostic purposes early in the disease, we have convinced many local physicians of the value of bacteriology as an aid to diagnosis. If cultures taken from suspected cases show *Bacillus pertussis*, the diagnosis is clear. Should the culture prove negative, there are three alternatives. Either the patient is not suffering from whooping cough, the organisms present have not grown on the plates because of old or faultily prepared medium, or the medium has not been properly exposed. To eliminate the latter sources of error only freshly prepared plates should be used, and cultures should be taken with careful regard to technic on three successive days, preferably in the evening, when, in whooping cough, the cough is most frequent and pronounced. If the three cultures taken in this manner are negative, we believe it safe to assume that the condition is not whooping cough.

We have attempted to show that the infectious period in whooping cough varies considerably depending in turn on other varying factors such as the virulence of the organism and the resistance of the host. The problem of establishing in each individual case the length of the period of infectivity is important, not only from the point of view of the patient, but in establishing more effective quarantine regulations for the control of the disease. Cultures should be taken at weekly intervals throughout the disease, and when a negative culture is secured, it should be checked by three cultures taken on successive days. If these are negative, the patient may safely be released from quarantine.

SUMMARY

At the risk of repetition, we wish to reiterate several important facts. Mediums used must be freshly prepared and must be properly inoculated, either by seeding with carefully washed sputum or directly by means of the cough plate method. Single negative cultures are frequently misleading, and repeated cultures on three successive days are to be recommended, not only in establishing the diagnosis in the catarrhal stage of the disease, in second cases, and in patients who never whoop, but also in determining the length of the period of infectivity and the possibility of release from quarantine. Only by such studies can controversial points concerning the period of infectivity be clearly established, and our present somewhat chaotic knowledge of the disease systematized and coordinated.

CONCLUSIONS

Cultures taken from whooping cough patients are an added aid in the early diagnosis of the disease. The methods employed in an intensive study conducted by the Commission for the Study of Whooping Cough show that they have an even wider range of usefulness than was at first expected. Carriers, second cases, and suspected cases in which the patients never whoop, all of which would otherwise remain undetected, may be diagnosed by bacteriologic studies. During the catarrhal stage of the disease, positive cultures may be obtained with considerable regularity. As the disease progresses, there is a coincident decline in the percentage of positive cultures. It is suggested that the existing quarantine requirements be so changed as to include the catarrhal stage of the disease, and that the termination of this quarantine period be determined by release cultures as is the common practice today in diphtheria.

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STUDIES ON VARICELLA

AGE AND SEASONAL INCIDENCE, RECURRENCES, COMPLICATIONS AND LEUKOCYTE COUNTS *

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AND
E. GORDON FLETCHER, M.D.
CINCINNATI

Varicella presents little difficulty in diagnosis under ordinary circumstances. Our experience, however, has led us to believe that confusion of the disease with variola occurs often enough to warrant the presentation of certain data which we have derived from a statistical study of 775 cases of varicella admitted to the contagious diseases department of the Cincinnati General Hospital from 1913 to 1926.

AGE

A point not sufficiently appreciated, although occasionally mentioned in the literature, is the number of adults who contract the disease. Of the 775 cases of our series, 1.4 per cent occurred in patients under 6 months of age; 11.7 per cent in those from 6 months to 2 years; 36.4 per cent in those from 2 to 6 years; 24.2 per cent in those from 6 to 12 years; 6.8 per cent in those from 12 to 20 years, and 19.4 per cent in those above 20 years. Of the eleven cases occurring in infants under 6 months of age, the distribution was as follows: In one the eruption was present at birth, the mother suffering from the disease; one occurred at 3 weeks of age; two at 1 month; two at 3 months; one at 4 months; two at 5 months, and in two the exact age was not known, although the infants were only a few months old. Of the 150 cases in persons above 20 years of age, 118 were in patients between 20 and 30 years of age; twenty-six in those between 30 and 40 years, and six in persons over 40 years, the oldest being 55 years of age. The large number of adults in this series does not give a true estimate of the age incidence of varicella. Many of these patients were sent to the hospital with a diagnosis of variola, and a few were nurses, physicians and attendants who contracted the disease on exposure in the hospital. The figures do serve to illustrate the frequency with which the disease may be contracted by susceptible adults.

SEASONAL INCIDENCE

In the 775 cases, the seasonal distribution was as follows: January, 11.2 per cent; February, 14.7 per cent; March, 13.3 per cent; April, 9.5 per cent; May, 8.8 per cent; June, 7.2 per cent; July, 4.1 per cent; August, 3.2 per cent; September, 5.4 per cent; October, 3.7 per cent; November, 9.3 per cent, and December, 9.4 per cent. These figures show only the expected greater number of cases in the winter months, 67 per cent of them occurring in the six month period beginning in November and ending in April.

PREVIOUS ATTACKS

In the entire group of 775 cases, there were only nine in which it was possible to obtain a previous history of varicella. The ages of these patients at the time of the first attack were as follows: 2 years, one; 5 years, one; 7 years, one; 9 years, two; 12 years, one; 14 years, one; 19 years, one, and 21 years, one. None of them were observed by us except during their second attack. Recurrence of varicella is certainly rare, although occasional cases are reported. Some physicians of large experience have never seen a second attack of the disease.

COMPLICATIONS

The following complications occurred once: nephritis, pharyngitis, laryngitis, bronchitis, corneal ulcer, parotitis, ileocolitis and streptococcus meningitis. The case of laryngitis was so severe as to require intubation. There were two cases each of erysipelas, adenitis, conjunctivitis and cellulitis. Three cases were complicated by tonsillitis, four by bronchopneumonia, fourteen by furunculosis and sixteen by otitis media.

Table 1.—*Summary of Leukocyte Counts*

Age Group	Leukocytes on First 3 Days; Number of Counts	Highest Count First 3 Days	Lowest Count First 3 Days	Percentage Having Leukocytosis	Percentage Having Leukopenia	Leukocytes on Fourth to Ninth Days; Number of Counts
Birth to 2 years	15,050 (27)	24,000	7,000	63 (over 12,000)	37 (under 12,000)	....
2 to 6 years	11,585 (65)	52,300	5,500	54 (over 10,000)	46 (under 10,000)	(4) 13,300
6 to 12 years	9,515 (44) 1st day 8 207 2d day 9.110 3d day 11,230	20,350	3,400	41 (over 9,000)	59 (under 9,000)	11,750 (3)
12 to 20 years	7,260 (22) 1st day 6,185 2d day 7,010 3d day 8,550	12,200	4,000	41 (over 7,500)	59 (under 7,500)	8,975 (4)
20 years and over	7,260 (59)	15,150	3,000	60 (over 6,000)	40 (under 6,000)	6,680 (9)

MORTALITY

Only two deaths occurred in this series of 775 patients. One was in a child who developed streptococcus meningitis following furunculosis, and the other child (not included in the list of complications) contracted varicella while suffering from a tuberculous bronchopneumonia.

LEUKOCYTE COUNTS

The leukocyte counts were made to a large extent in the first week of the disease, this being dated from the appearance of the eruption. For the purpose of comparison with normal counts, it is necessary to make a division according to age groups. To avoid making this report cumbersome the counts on the first three days and then those taken later will be summarized, the counts on individual days being noted only where there is any significant difference. It may be stated here that a review of the literature [1] suggests that there is a normal count or a leukopenia in the first week of the disease and often during the second. Some authors have stated that a lymphocytosis exists throughout the course of the disease.

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* From the B. K. Rachford Department of Pediatrics, University of Cincinnati College of Medicine.

Table 1 is a summary of 237 counts, and shows the changes in the total number of leukocytes. In infancy the average leukocyte count was about 3,000 above normal in the first three days of the disease, but at other ages, with the exception of adult life in which there was possibly a slight increase in the number, the average count was approximately normal. In the age group between 6 and 20 years the leukocytes, which were normal on the first day, rose to about 3,000 above normal by the third day. Fifty-four per cent of the patients, when studied individually, had leukocytosis in the first three days, the remainder having leukocyte counts below the average normal. From the fourth to the ninth day there was a slight leukocytosis in all age groups amounting from about 2,000 to 3,000 above normal.

Table 2 shows a summary of 221 differential leukocyte counts. There was no significant difference of any diagnostic importance, as the averages fell within the approximate normal limits for the various age groups. In individual cases there was wide variation from the average, but it was not possible to correlate any particular distribution of the different types of cells with such factors as severity of the disease, extent of the eruption or the like. In some cases we have found a large number of cells which appear to be of the nature of histiocytes. These we have not found regularly, and in the table they are included as large mononuclear cells.

It is difficult to interpret minor changes not only in differential counts but also in the total leukocyte count because of the definite variations that occur during the day. We are at present at work on the vacillation of counts that may occur in the course of twenty-four hours. One of us [2] has stressed this point and the necessity of its consideration in evaluating leukocyte counts, and it has been emphasized by others, especially by Sabin.[3]

TABLE 2.—*Analysis of Different Leukocyte Counts*

	First Three Days					Fifth to Seventh Days				
Age Group	Polymorphonuclears,* per Cent	Lymphocytes, per Cent	Mononuclears, per Cent	Eosinophils, per Cent	Number of Cases	Polymorphonuclears, per Cent	Lymphocytes, per Cent	Mononuclears, per Cent	Eosinophils, per Cent	Number of Cases
Birth to 2 years	38.0 H 69 L 10	55 H 83 L. 24	6.9 H. 51 L. 2	0 H. 0 L. 0	27					
2 to 6 years	47.3 H 80 L. 29	45.8 H. 78 L. 17	6.4 H. 15 L. 1	0.3 H. 0.3 L. 0	58	52.7 H. 89 L. 35	46.6 H. 65 L. 29	0.6 H. 0.2 L. 0	0 H. 0 L. 0	3
6 to 12 years	49.9 H. 84 L. 21	42.8 H. 78 L. 10	6.6 H. 17 L. 1	0.7 H. 14 L. 0	43	69.7 H. 76 L. 65	20.7 H. 24 L. 16	4.0 H. 7 L. 0	5.0 H. 9 L. 0	3
12 to 20 years	57.3 H. 88 L. 40	34.8 H. 58 L. 12	5.7 H. 22 L. 0	0.2 H. 2 L. 0	20	56.5 H. 70 L. 44	33.3 H. 40 L. 27	9.3 H. 29 L. 0	1.0 H. 4 L. 0	4
20 years and over	56.4 H. 84 L. 28	35.9 H. 72 L. 6	7.5 H. 37 L. 2	0.2 H. 5 L. 0	57	54.5 H. 89 L. 31	44 H. 68 L. 20	1.5 H. 5 L. 0	0 H. 0 L. 0	6

* Basophils counted with polymorphonuclears.

SUMMARY

Many adults will develop varicella if exposed to it and if not protected by the immunity conferred by a previous attack. Varicella occurs in young infants and may be congenital, the virus being transmitted from the mother who is suffering from the disease. In the present series, 775 cases occurred in patients from 1 day to 55 years of age.

Varicella is somewhat more frequent in the winter months.

Of 775 patients, nine gave a history of a previous attack of varicella.

Complications are unusual and nearly always mild, the most frequent furunculosis and otitis media.

Two deaths occurred in 775 cases; one may be attributed indirectly to varicella, but the other was coincidental.

The average of the leukocyte counts in this series (237 counts) tends to be increased about 3,000 above normal in infants, even on the first day of the eruption. The age groups between 6 and 20 years have a leukocyte count of about normal on the first day, which increases to about 2,000 or 3,000 above normal by the third day. There is very slight increase in leukocytes in adults in the first three days (about 1,000 above normal). When studied individually, the number of patients showing leukocytosis or leukopenia in the first three days is about equal. From the fourth to the ninth day, the average leukocyte count is about 2,000 to 3,000 above normal.

There is no change in the differential leukocyte count, which is consistent enough to be of significance in diagnosis.

Minor changes in leukocytes should be interpreted with caution because of the normal daily fluctuation in the count.

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CONTOUR OF NORMAL AND TUBERCULOUS CHESTS [*]

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MINNEAPOLIS

The shape of the chest of the tuberculous patient and that of the normal is so strikingly different that a study of the various diameters proves very interesting.

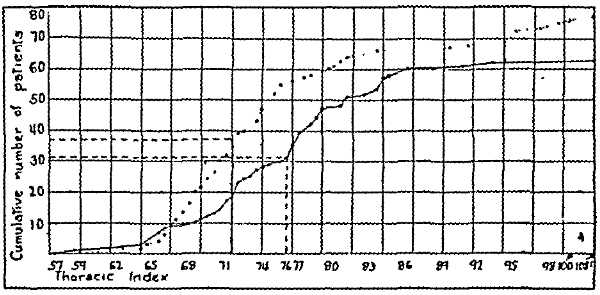
It is still a common belief that the flat chest or, rather, the one with a low thoracic index is apparently more prone to tuberculosis than the deep chest with a greater thoracic index. By the thoracic index is meant the ratio of the anteroposterior measurement to the transverse.

In 1828, Chomel [1] stated that the normal chest was flatter than the tuberculous. Hutchinson [2] in 1897 and again in 1903 [3] showed that the tuberculous chest was absolutely narrower, deeper and more round than the normal; that it was a primitive, undeveloped thorax, one approximating that of the quadruped type. In his study of comparative anatomy he showed that the higher the form of mammal the greater was the transverse diameter as compared to the anteroposterior. He showed that in the development of the fetus the ratio of the anteroposterior diameter to the transverse was as 3:2 in early fetal life, gradually changing to the ratio of about 1:1 at birth. Müller's [4] thoracic measurements in the development of the fetus were similar to those of Hutchinson's. Scammon and Rucker's [5] work on the changes of the chest diameters of the new-born showed that the thoracic index at birth was about 86 per cent; that with the establishment of respiration it rises to about 106 per cent, and that it then drops off in the first twenty-four hours to about 102 per cent. In the middle of the second week the thoracic index is about 100.5 per cent, and it is three months or more before it reaches the thoracic measurements it had at birth.

Smythington,[6] Rodes [7] and Zeltner [8] have shown that the chest continually undergoes changes from infancy to adult life. The thorax becomes more flat anteroposteriorly to about the twentieth year. The chest then begins to assume a more rounded form, changing to one with a greater thoracic index. These changes continue, as shown by Weisenberg,[9] to the age of about 60 years, when development ceases.

Several theories have been offered to explain the changes of the chest diameters. Mehnert [10] proposed that gravity played an important part in the flattening of the chest after birth, because the child spends most of its time on the back and abdomen. Jackson's [11] work on the dog tends to disprove the gravity theory. He concludes that gravity has little to do with flattening of the chest. The descent of the diaphragm may have some bearing on the changes of the shape of the chest.[5] The inflation of the lungs does not take place at the same time throughout, as shown in Champneys' [12] work. He found that the anterior and medial margins expand before the lateral and lower. Freund [13] states that an abnormal shortening of the first rib and an early sheathlike ossification of its cartilage may have some bearing on the shape of the thorax.

I became interested in the shape of the thorax in relation to tuberculosis about three years ago, while teaching physical diagnosis of the chest to the medical students at the University of Minnesota dispensary. I observed that patients who appeared to have flat chests proved to be deep chested when asked to straighten up and throw their shoulders back. They looked flat chested because they allowed their shoulders to droop forward. A straight line could be drawn across the front of the chest from one acromion process to the other. After measuring a few of these patients I found that they were most often really deep chested. After reading Woods Hutchinson's [2] paper on "Some Deformities of the Chest in the Light of Its Ancestry and Growth," I decided to go on with the investigation.



Thoracic index of 140 patients with pulmonary tuberculosis, seventy-seven women and sixty-three men: solid line, men; dotted line, women.

To carry out my experiment I made measurements on the following for:

1. Adult pulmonary tuberculosis, 140 definitely positive diagnosed pulmonary tuberculous patients at the University of Minnesota.
2. Normal adult chests, 166 University of Minnesota students.
3. Abnormal chests of children, fifty-one children at Glen Lake Sanatorium.
4. Normal children, ninety-nine public school children from the Bremer School, Minneapolis.
5. Normal adult chest with chest complaints, forty University of Minnesota Dispensary patients.
6. Asthma and chronic bronchitis and bronchiectasis, twenty-five dispensary patients.

After the average thoracic index for each group had been found, the median was determined. The median is a measurement such that there is the same number of values on one side that there is on the other.[14] The formula of Quetelet [15] was used.

The average deviation of the thoracic indexes of each group was also determined, then the probable error.[16]

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[*] Read before the Minnesota Pathological Conference Society, Nov. 15, 1926, and Glen Lake Sanatorium, March 23, 1927.

[*] From the Department of Medicine, University of Minnesota Medical School, and the Glen Lake Sanatorium, Oak Terrace, Minn.

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CASES OF PULMONARY TUBERCULOSIS

This series consists of 140 definitely diagnosed pulmonary tuberculous patients, reviewed in the accompanying chart and in table 1. There were seventy-seven males and sixty-three females The average thoracic index for the males was 75.87 per cent, for females 75.40 per cent, and for the whole group 75.64 per cent.

Table 1—*Thoracic Index of One Hundred and Forty Patients*

Thoracic Index	All Cases, Per Cent	Females, Per Cent	Males, Per Cent
Average	75 5	75 40	75 87
Average deviation	6 24	7 36	5 91
Median	73 0	71 55	76 0
Probable error	±0 521	±0 688	±0 681

These figures may be compared with those found by other investigators The average thoracic index in Hutchinson's[3] series of eighty-two cases was 79.5 per cent; Evans and McHugh's[17] 107 cases, 80.86; White's[18] thirty-five cases, 77 9; Colbeck's[18] seventy-five cases, 80.30, Draper's[19] seventy-four males, 72.6; twenty-eight females, 74.5; Grabilowitch's[20] series of cases, 73.0 per cent.

In my series of cases the male chest was found to average slightly deeper, while Draper's[19] series shows that the female chests average deeper. Rode's[7] measurements on the negro chests found the female thorax more round than the male.

The average thoracic index deviation for the group was 0 240 per cent, and the probable error is ± 0.654 per cent.

NORMAL CHESTS

For normal chests, 166 University of Minnesota students were measured (table 2) The average thoracic index was found to be 68 1 per cent. This figure was somewhat lower than that found by most other investigators with the exception of Hasegawa.[21] His series of 100 cases showed an average thoracic index of 68 08 per cent; Hutchinson's[3] series of fifty cases, 72.5 per cent, Seaver's[22] series of 2,300 Yale University students, 70 per cent. Grabilowitch's[20] cases showed 70 0 per cent; Malone's,[23] 74.6 per cent, and Otis's,[24] 76 per cent Probably the reason for these variations is that the level of the chest used for measurement was not given in every instance and some were measured in inches and some in centimeters. My measurements on the chest were made with a pelvimeter graduated in centimeters. The level of the chests measured was at the nipple line.

Table 2—*Normal Chests*

Thoracic Index	Male Students, Per Cent
Average	68 1
Average deviation	3 41
Median	67 2
Probable error	±0 277

The average thoracic index deviation was 3.41 per cent, and the probable error ± 0.277 per cent.

The ages in this group varied from 15 years to 37 years. The average was 20 9 years. The average deviation was 3.4 years, and the probable error ± 0.244.

This marked difference in the thorax between the patients with pulmonary tuberculosis and the normals led me to carry on some measurements on a series of children. For the normal I measured ninety-nine children at the Minneapolis Bremer public school; for abnormal, fifty-one children at Glen Lake Sanatorium.

CHESTS OF NORMAL CHILDREN

This group of ninety-nine children consisted of fifty-four boys and forty-five girls (table 3). The average thoracic index for the boys was 72.4 per cent. There was one boy with a thoracic index of 100. He had an adenitis in the glands of the neck and one gland was broken down, discharging pus. If we leave out this case, the average thoracic index for the boys was 71.9 per cent. The average thoracic index deviation was 4.46 per cent and the probable error ± 0.567 per cent.

Table 3—*Chests of Normal Children*

Thoracic Index	Boys, Per Cent	Girls, Per Cent	Girls and Boys, Per Cent
Average	72 4 71 9*	70 8	71 6
Median	71 0	70 8	70 8
Average deviation	4 46	4 31	4 39
Probable error	±0 567	±0 525	±0 380

* Deducting one tuberculosis suspect.

Table 4—*Chests of Abnormal Children*

Thoracic Index	Boys, Per Cent	Girls, Per Cent	Girls and Boys, Per Cent
Average	73 63	74 88	74 29
Median	72 50	74 50	73 25
Average deviation	5 90	5 0	5 20
Probable error	±1 03	±0 830	±0 654

The average thoracic index for the girls was 70 8 per cent. The average thoracic deviation was 4.31 per cent. The probable error was ± 0.525 per cent.

These measurements may be compared with those found on the children at Glen Lake Sanatorium, this group consisting of twenty-seven girls and twenty-four boys (table 4). The average thoracic index for the girls was 74.88 per cent, and for the boys 73.63 per cent. The average for the whole series was 74.29 per cent, as compared with 71.6 per cent for the normal group.

The percentage of difference between these two groups appears quite marked, 2 69 per cent. However, if the probable error of each series is noticed, the difference is not so great. The reason perhaps is that the children of Glen Lake Sanatorium are not all definitely tuberculous. Most of them are there because of positive von Pirquet tests and as tuberculosis suspects.

Kleinschmidt's[25] series of measurements of thirty-four flat chested children revealed only fourteen to be tuberculous.

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[24] Otis, E O. Pulmonary Tuberculosis, Boston, W. M Leonard, 1920

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BRONCHIAL ASTHMA AND CHRONIC BRONCHIECTASIS

Twenty-five patients with bronchial asthma and chronic bronchiectasis were measured (table 5). This group, as was expected, showed a very high average thoracic index, 82.83 per cent.

TABLE 5.—*Asthma, Chronic Bronchitis and Bronchiectasis*

Thoracic Index	All Cases, Per Cent
Average	82.83
Median	77.25
Average deviation	10.58
Probable error	±1.632

Other factors may enter into the cause for this high figure. One factor, perhaps, is the average age of this group, 43.5 years. Another may be the possible relationship of asthma to tuberculosis.

NORMAL CHESTS PLUS CHEST COMPLAINTS

A very interesting group of cases, forty in all, consisted of patients coming to the dispensary with chest complaints, but on physical and roentgen-ray examinations not showing definite pathologic changes (table 6). The average thoracic index of this group was higher than that of the normal group of university students and lower than that found on the pulmonary tuberculous cases.

TABLE 6.—*Normal Chests Plus Chest Complaints*

Thoracic Index	All Cases, Per Cent	Females, Per Cent	Males, Per Cent
Average	72.16	72.68	71.37
Median	71.0	71.0	71.0
Average deviation	6.43	7.30	5.12
Probable error	±0.870	±1.39	±1.01

However, after the probable error has been determined, the actual difference between this group and that of the normal tuberculous group is not so marked; yet there is enough difference to show that this series of cases should be kept under close observation as probable tuberculosis suspects.

TABLE 7.—*Ages of the Different Groups*

Type	Age Variations	Median	Average
Pulmonary tuberculosis adults	13-79 yrs.	33.0	33 yrs. 9 mo.
Normal adults	15-37 yrs.	19 yrs. 10 mo.	20 yrs. 10 mo.
Glen Lake children	4-15 yrs.	7 yrs. 1 mo.	8 yrs.
Normal children	7-15 yrs.	9 yrs. 3 mo.	9 yrs. 11 mo.
Asthma and bronchitis	18-72 yrs.	42 yrs.	43 yrs. 6 mo.
Normal chests plus chest complaints	16-45 yrs.	26 yrs.	29 yrs. 3 mo.

VITAL CAPACITY

Hutchinson,[26] Dreyer,[27] West,[28] Stewart,[29] Malone,[23] Cameron,[30] and Meyers and his co-workers [31] have presented exceedingly valuable contributions on vital capacity of the lungs both in health and in disease. They have shown that the vital capacity decreases almost in proportion to the amount of pathologic change in the lungs.

I have carried out a series of observations on the vital capacity of 164 normal students and sixty-nine tuberculosis patients (table 8). Although my number of observations is very small, they compare closely with larger numbers made by the investigators mentioned.

The vital capacity of the normal students varied from 2,450 to 6,200 cc. The average was 4,340 cc. The vital capacity of the tuberculous patients varied from 800 to 4,300 cc. The average was 2,650 cc. In other words, the vital capacity was about 60 per cent greater in the normals than in the tuberculous. This difference is quite high. Malone's [23] series shows a difference of more than 50 per cent.

TABLE 8.—*Vital Capacity*

Vital Capacity	Pulmonary T. B. Cc.	Normals, Cc.
Average	2,650	4,320
Median	2,616	4,255
Average deviation	594	545
Probable error	±61.5	±31.6

PREDISPOSING FACTORS

Hofbauer [32] and others showed that upper respiratory changes, such as nasal obstructions, enlarged tonsils and adenoids, are an important factor in hindering the development of the chest. Chronic bronchitis, asthma and whooping cough [33] cause marked impairment to respiration. Hutchinson [2] believed that the real cause for deep chests was abdominal disorders, such as gas, fixed mass of abdominal contents, and enlarged glands in the abdominal cavity, these interfering with proper action of the diaphragm. His explanation was that instead of the diaphragm using the vertebral column and the inner margin of the lower ribs as fixed points, the center of the diaphragm becomes the fixed point. This causes the chest to be pulled inward and upward instead of downward and forward at each respiration. This condition, associated with rickets, gives rise to the large abdomen ("pot belly") in undernourished children.

What shall be done to help prevent the deep undeveloped chest?

1. Children should be measured at regular intervals, so that those with an index too high for their age may be picked out and proper means taken to correct the defects.

2. Children should be encouraged to participate in sports, gymnastics and games, especially those that are found to aid in the proper development of the chest. Tennis, baseball, work on parallel bars, gymnasium rings, swimming, climbing ladders backward, climbing ropes and trees are very desirable forms of exercise. Götz [34] found that the vital capacity increased in a very short time under these forms of exercise. If the latter is true, a great advance has been made in the prevention of pulmonary tuberculosis, as Malone [23] states that "lung capacity is the real criterion of importance to tuberculosis."

CONCLUSIONS

1. The flat chest appears to be the healthy chest.

2. The round or deep chest is probably an infantile undeveloped chest.

3. The round chest is probably more prone to tuberculosis.

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[26] Hutchinson, J.: On the Capacity of the Lungs and on the Respiratory Functions with a View of Establishing a Precise and Easy Method of Detecting Disease by the Spirometer, Tr. Med. Chir. **29**: 137, 1846.

[27] Dreyer, Georges: The Vital Capacity in Man and Its Relation to the Size of the Body, Lancet **2**: 227 (Aug. 9) 1919; The Assessment of Physical Fitness by Correlation of Vital Capacity and Certain Measurements of the Body, New York, Paul B. Hoeber, 1921.

[28] West, H. F.: Clinical Studies on the Respiration: A Comparison of Various Standards for the Normal Vital Capacity of the Lungs, Arch. Int. Med. **25**: 306 (March) 1920.

[29] Stewart, C. A.: The Vital Capacity of the Lungs of Children in Health and Disease, Am. Jour. Dis. Child. **24**: 451 (Dec.) 1922.

[30] Cameron, C.: The Vital Capacity in Pulmonary Tuberculosis, Tubercle **3**: 353-385 (May) 1922.

[31] Meyers, J. A.: Vital Capacity of the Lungs and Its Practical Application, J. Indust. Hyg. **7**, number 1, 1925.

[32] Hofbauer, Ludwig: Mund- und Nasenatmung in ihrem Einfluss auf die Thoraxbewegung, Arch. f. d. ges. Physiol. **147**: 271-274, 1912.

[33] Foote, J. A.: The Infantile Thorax of the Rachitic Child as a Predisposing Factor in Bronchial Infections, Internat. Clinics **2**: 239-243, 1922.

[34] Götz, H.: Modification of Child Chest by Gymnastics, Monatschr. f. Kinderh. **30**: 97-192 (May) 1925.

4. The vital capacity of the flat chest is more than 50 per cent greater than that of the round tuberculous chest.

5. Early childhood diseases may play an important rôle in hindering the proper development of the chest.

6. Good environments, such as fresh air, sunshine, proper food and special forms of gymnastics, can help to increase the vital capacity. To quote Hutchinson,[2] "a month of tree climbing may be worth a gallon of tuberculin."

Clinical Notes, Suggestions and New Instruments

COMBINED SUCTION TIP AND GROOVE DIRECTOR

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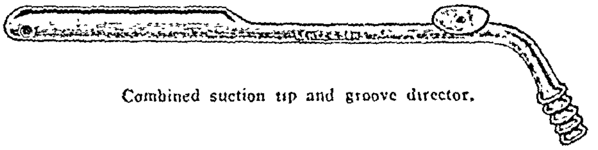
Dr. George P. Muller and I have found this suction tip exceedingly useful on many occasions. It has been used chiefly in gastro-enterostomies, in which, after a small incision has been made into the stomach or jejunum, the aspirator is introduced to remove any fluid present. The suction tip is then held tightly against the stomach or bowel, and the incision is made directly down on the groove. In this way, the bowel and stomach are opened with a minimum of injury.



Combined suction tip and groove director.

COEXISTING ACTIVE SYPHILIS OF THE LARYNX WITH ACTIVE PULMONARY TUBERCULOSIS [*]

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History.—F. R., a man, aged 55, single, born in Germany and twenty-three years in the United States, came to the medical clinic, May 29, 1925. His occupation for the past few years was that of a clothing cutter, before which he had been a butcher, commencing that pursuit when a boy.

He had had a hard chancre twenty-five years before, for which he was treated intermittently. The Wassermann reaction had been negative twice and positive once. Twenty years before admission the patient acquired a gonorrheal urethritis, from which he recovered in four weeks. Nineteen years before admission he had an acute purulent otitis of the left ear, and the recovery was uneventful in about six weeks. Five years before admission he had a skin syphilid, proved by a positive Wassermann blood test at the time. For years the patient had had a slight cough and stated that a physician told him his lungs were "weak."

Up to the onset of the present illness his habits of eating, sleeping and exercising were regular. Alcohol, smoking and the use of tea and coffee had been indulged in moderately. He stated that he had not used habit-forming drugs. His sexual habits were promiscuous.

The family history, both immediate and remote, was good.

The present illness dated back to March, 1925, with the onset of hoarseness, loss of flesh and strength, and marked aggravation of the cough. The cough was productive of a yellowish green, thick sputum. It was persistent night and day. The hoarseness was quite marked, and raising the voice above a whisper would produce pains in the throat. The loss of flesh in three months amounted to more than 20 pounds (9 Kg.), and together with this loss existed a failing of strength, loss of appetite, depression, chills and fever and night sweats.

Physical Examination.—The patient appeared chronically ill. He was stooped. The respirations were 35 a minute; the pulse, 96; the temperature, 100 by mouth at 2 p. m. The weight was 136 pounds (62 Kg.); height, 5 feet 6 inches (167.6 cm.). The gait was slow and careful. The head was normal in size and shape. The eyeballs were sunken. The Argyll Robertson pupil was absent. The nose and ears were normal. The lips were slightly cyanotic; a few teeth were missing and the remaining poorly kept. Fetor oris was very marked. The tongue was slightly coated with a white layer. The tonsils were small and the pillars slightly congested. Examination of the larynx by the nose and throat department revealed a condition regarded as tuberculous laryngitis, especially if pulmonary tuberculosis existed. The neck showed nothing unusual. The chest showed marked depressions of the supraclavicular and infraclavicular spaces, and was of the habitus asthenicus type. Palpation and percussion revealed abnormal signs in the left supraclavicular and infraclavicular regions to the third rib. There were the signs of consolidation. Except for a simple tachycardia, the heart was normal. The spine showed a moderate degree of kyphosis. The abdomen was scaphoid. No tenderness or rigidity was evident. The spleen, liver and kidneys were not palpable. On the penis was a scar, apparently that of the chancre with mixed infection. The extremities were normal except for their loss of flesh and clubbing of the finger nails. The reflexes were normal.

Clinical Observations.—The afternoon temperature, pulse and respiration from May 29 to June 5 varied from 99.8 to 100.4 F., 90 to 102, and 22 to 30, respectively. These observations were recorded in the early afternoon. A roentgenogram of the chest revealed infiltration of the left upper lobe, apparently tuberculous. Two Wassermann blood tests were done by us; one was negative, the other 1 plus. A spinal Wassermann test was refused by the patient. Blood count and smear were negative except for a slight secondary anemia. The urine was normal. The first report on the sputum was negative for *B. tuberculosis,* but the subsequent reports were all positive for that organism. Laryngeal smears were twice negative for *B. tuberculosis.*

Treatment and Course.—Six injections, at weekly intervals, of neoarsphenamine, 0.6 Gm., were given. Toward the end of the fourth week the patient's hoarseness commenced to lessen and at the fifth week there was considerable improvement. The hoarseness and cough were almost gone by the sixth week. The expectoration decidedly decreased. Appetite, weight and strength were returning. Aside from this treatment the patient was instructed as to diet, rest and general hygiene. The patient had utilized all hygienic and dietetic measures prior to receiving the neoarsphenamine, without avail. In fact, he had been growing worse.

The patient desired to return to Germany to visit his relatives and left the United States late in August, 1925, increased in weight and strength, his hoarseness gone, but with a slight cough present.

COMMENT

This case is reported because it apparently offers an instance of a syphilitic laryngitis developing in a patient suffering from active pulmonary tuberculosis. There are cases of syphilis of the larynx[1] which closely simulate a tuberculous laryngitis and make the diagnosis difficult. The frequent association of pulmonary tuberculosis with laryngeal tuberculosis would almost always favor, in doubtful cases, a diagnosis of the latter over syphilis of the larynx in the existence of a pulmonary Koch infection. The patient would be regarded as almost hopeless of a cure, the family would be informed of the fact, and such a case as this would be recorded as tuberculous laryngitis complicating pulmonary tuberculosis. But the case presented here emphasizes the fact that active syphilis of the larynx may exist with an active tuberculous lesion of the lung. Further, in doubtful laryngeal cases, especially when there is a history of syphilis, antisyphilitic treatment should be tried before a positive diagnosis of the laryngeal condition is made. Apparently, the prognosis may be entirely different.

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[*] From the Medical Service of Dr. William J. Pulley, the University and Bellevue Hospital Medical College.

[*] Read before the College Medical Society of the University and Bellevue Hospital Medical College, Jan. 3, 1927.

1. Phillips: Tuberculosis of the Larynx, in Diseases of Ear, Nose and Throat, Philadelphia, F. A. Davis Company, 1911, p. 425. Turner: Nose, Throat and Ear, New York, William Wood & Co., pp. 184-190.

Special Article

IMMUNITY IN TUBERCULOSIS

VACCINATION WITH LIVING VIRULENT, AVIRULENT AND DEAD TUBERCLE BACILLI [*]

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The present general trend in the prevention of tuberculosis, apart from the sociological campaign measures, is still the search for a method of producing specific immunity which can be safely applied for practical use in children.

In dealing with such a shopworn subject as immunity in tuberculosis, a subject which has led to many controversies and a general disagreement, one must be very cautious in forming any opinion. The prevailing skepticism and apathy toward a new investigation covering some old problem is justifiable for the reason that many claims in the past when subjected to a rigid test failed to meet all the requirements.

No attempt will be made to review in detail the literature, which is voluminous and in part very contradictory, as it will be a hopeless task and will add little toward forming an hypothesis which can be used as a basis for discussion. However, no review of this nature can be successfully presented by ignoring investigations having a direct bearing on the subject under consideration.

With the discovery of the tubercle bacillus as the etiologic factor in tuberculosis, a discovery accepted with only a few reservations and little skepticism, the inquisitive mind of the immunologist was concentrated on the methods that could be used for treatment and in prophylactic immunization.

The Jenner method of vaccination of years ago, with innumerable modifications, was employed in the early period of investigations, and the brilliant work of Pasteur with anthrax and chicken cholera suggested a good many possibilities.

All the methods used up to the present time in producing artificial immunity in tuberculosis can be divided into three main groups, based on (1) the use of living, virulent tubercle bacilli; (2) the use of living, avirulent organisms, and (3) the immunity produced with dead tubercle bacilli. I shall discuss them in the order mentioned.

IMMUNIZATION WITH LIVING VIRULENT TUBERCLE BACILLI

The universal occurrence of infection throughout the civilized world with its apparently low death rate attracted the attention of many investigators and led them to study the so-called naturally acquired resistance to tuberculosis and its relation to the further development of clinical disease. Investigations revealed the fact that with the implantation of the tubercle bacillus an alteration of the cells took place, so that they reacted to a second implantation entirely different from the first. This changed state is commonly spoken of today as "allergy."

The wide distribution of tubercle bacilli in civilized communities is quite apparent. If from 80 to 90 per cent of the population at large, up to the age of 20, has been infected with tubercle bacilli, and there is no question that nearly every one comes in contact with them, why does such a small number of these infected individuals develop clinical disease usually later in life? Could it be that small infections received from time to time in childhood and continuing through the period of adolescence have some beneficial effect by setting up a certain amount of resistance against a clinical tuberculosis?

These arguments were put forward by many investigators and were based on the investigations of Koch[1] and Römer.[2]

Koch's experiments showed that if infected animals were again inoculated subcutaneously with a small amount of living tubercle bacilli, the point of inoculation ulcerated within from three to four weeks but had a tendency to heal gradually, while if a single subcutaneous inoculation was made, it gradually developed into an ulcer which persisted until the death of the animal.

Römer's investigations confirmed these experiments of Koch and in addition revealed that if guinea-pigs were primarily infected with virulent tubercle bacilli, and a progressive disease resulted, it was very difficult to reinfect them. This resistance to a second infection ran closely parallel with the extent of the disease. In other words, the primary infection warded off the progress of the second implantation.

If the resistance that can be observed in the experimental animal, rendered so by reinfection, is correlated with the acquired resistance established spontaneously in human beings by periodic implantation of the organisms, and if such a condition can be brought about in a natural way, and that only with living tubercle bacilli, the most logical step would be to use a definite dosage at definite intervals in order that immunization be made more efficient. These have been the premises on which has been based the investigation on the use of living, virulent tubercle bacilli as a vaccine.

One other argument put forward in favor of the use of living, virulent tubercle bacilli has been based on Welch's hypothesis that a virulent micro-organism on entering the body may not only create substances directly injurious to the defensive forces of the host, but actually acquire immunity against the defensive forces of the body. This means that living, virulent organisms which can produce disease in animals or human beings are the only ones to create the formation of specific immunity against a virulent organism. It is useless, according to this hypothesis, to use avirulent organisms to produce immune bodies against a pathogenic organism. The followers of this hypothesis hold that a nonpathogenic organism can produce homologous antibodies only for the species inoculated and not against a virulent strain of organisms.

To my knowledge, Webb and Williams[3] were first to use living, virulent tubercle bacilli in attempts to produce immunity in animals and in children. As a child living in contaminated surroundings is certain to become infected from time to time, the dosage sometimes being small but occasionally large, they thought it better to infect the child with minute doses at definite intervals, thus establishing protection without running the risk of a massive infection. Using Barber's method for counting tubercle bacilli, they immunized some rabbits and guinea-pigs by inoculating them with living tubercle bacilli, beginning with very small doses, 1, 3, 5, 8, 12, and so on, organisms, given at weekly intervals. They kept some of their animals for nine months, killed them, and at autopsy found that, in some of the guinea-pigs which received a total of 140,000 tubercle bacilli, tuberculosis could not be demonstrated. The same results were obtained in monkeys. In 1911, these investigators reported the application of this method to two children, one 3 months old and the other 3 years. Both of these children gave a negative reaction at the onset of the experiments. Four months after the treatment the children still gave a negative reaction to the Pirquet test, although they were living in contaminated surroundings. Webb and Gilbert[4] reported some other vaccinations in 1914, but as the details of the outcome of this human experiment are lacking, I need not mention them at this time.

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[*] Read before the Saranac Lake Medical Society, Dec. 1, 1926.

[1] Koch, R.: Deutsche med. Wchnschr. **17**: 101, 1891.
[2] Romer, P. H.: Beitr. z. Klin. d. Tuberk. **13**: 163, 1909.
[3] Webb, G. B., and Williams, W. W.: Tr. Sixth Internat. Congress of Tuberc., section 1, **1**: 194, 1908; Immunity in Tuberculosis, J. A. M. A. **57**: 1431 (Oct. 28) 1911.

This work has been carefully checked by Bruyant,[5] who used a method similar to that of Barber's but perhaps not so accurate. Using guinea-pigs and rabbits, Bruyant failed to confirm their work, producing only a chronic tuberculosis in the animals.

This is in accord with our own experiments. Brown, Heise and I,[6] in 1914, using Barber's technic in counting the bacilli, attempted to duplicate some of Webb's results. A large group of guinea-pigs was chosen for the experiment, and the dosage and intervals of inoculation were exactly like those advocated by Webb. At the end of a year many of the animals were killed, and not a single guinea-pig was free from tuberculosis. A degree of protection was shown only by the increasing number of days of life and by establishing a chronic disease in the guinea-pigs. The organism used by us was a virulent strain of human tubercle bacilli. Webb and Gilbert,[4] following our publication, after using our virulent tubercle bacilli, made the statement that it was not possible to immunize an animal with cultures of tubercle bacilli of such high virulence that ten organisms can produce tuberculosis in guinea-pigs.

New interest in experiments along this direction has been recently shown by some German investigators. At the recent meeting in Washington, Selter[7] made the following dogmatic statement:

> I therefore expressed, many years ago, the opinion that successful immunization can be produced *exclusively* by living, sufficiently virulent tubercle bacilli which are capable of infecting the body, that is, become fixed, and creating a tuberculous focus. We shall find immunity an active force only so long as the tubercle bacilli exist in the body as a living force and are in reciprocal activity with the body. Should the tuberculous focus completely disappear and the bacilli vanish, immunity will also disappear.

According to Selter, the tuberculous immunity in experimental animals was strongest in those in which the infection called forth only a small, local, anatomic tubercle, which remained localized. On the other hand, when there was a progressive tuberculous disease, this immunity was very much more uncertain. It is surprising that Selter,[8] with such limited experimental data, had the courage to apply this method in the vaccination of children. Nine infants of various ages up to 18 months were inoculated with doses of virulent human tubercle bacilli, the dosage being from 12 to 10,000 organisms. All these children previous to inoculation gave a negative skin test. No ill effects followed these inoculations. Where the dosage was large, a small nodule developed, a few of which in time ulcerated. Eight of the nine children developed positive tuberculin reactions, after twenty-eight days with the large dose and three and one-half months with the small dose. In one child who died of pneumonia there was an opportunity to trace the path of the inoculated organisms. At autopsy, macroscopic evidence of tuberculosis could not be found, with the exception of a small ulcerated focus at the site of inoculation. Portions of various organs were triturated and inoculated in guinea-pigs. Positive results were obtained only in a guinea-pig inoculated with triturated lymph nodes regional to the inoculation. Further details as to the outcome in the remaining eight children must be awaited.

VACCINATION WITH AVIRULENT AND ATTENUATED TUBERCLE BACILLI

Often it has been stated that the most suitable method of immunization will follow the discovery of some type of tubercle bacillus possessing high antigenic properties in producing [illegible] unity and still lacking the ability to [illegible] Search for such an organism can be traced through the literature for the last four decades.

Forty years ago, in 1886, Cavagnis[9] made an attempt to immunize animals by using an increasing amount of tuberculous sputum which previously had been treated with a weak solution of phenol (carbolic acid). The results were not very encouraging.

Then followed a period of extensive investigation. As nothing was known of the differentiation of various types of tubercle bacilli, the reports were contradictory. Not until the beginning of this century, when the distinction between the human and the bovine bacillus was made by Theobald Smith, could this discrepancy be explained.

In 1890, Grancher and Ledoux-Lebard[10] vaccinated rabbits with an avirulent type of tubercle bacilli. As the number of animals used in this experiment was small, the results obtained were not very convincing, although interesting and encouraging.

Probably the first work in this country with attenuated, living tubercle bacilli was that of Dixon,[11] who found that old cultures having a pleomorphic tinctorial characteristic, i. e., club-shaped and branching forms, could be successfully employed for immunizing animals against a virulent infection. Trudeau,[12] working with an organism which had lost its pathogenicity during prolonged artificial cultivation, came to the same conclusion: that attenuated cultures when inoculated in animals can render them immune to a second inoculation of living, virulent tubercle bacilli.

Since the work of these two investigators, the experiments of de Schweinitz,[13] Pearson and Gilliland,[14] and others in this country have confirmed their observations.

Grancher and Martin[15] made an effort to immunize rabbits by using cultures whose virulence they modified by cultivation on various mediums from which some important ingredients had been omitted. The results obtained were not very convincing.

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[4] Webb, G. B., and Gilbert, G. B.: Immunity in Tuberculosis, J. A. M. A. **63**: 1098 (Sept. 26) 1914.

[5] Bruyant, L.: Compt. rend. Soc. de biol. **71**: 143, 1911.

[6] Brown, L.; Heise, F. H., and Petroff, S. A.: J. M. Research **30**: 475, 1914.

[7] Selter, H.: National Tuberculosis Association, Washington, D. C., October, 1926.

[8] Selter, H.: Deutsche med. Wchnschr. **51**: 933 (June 5) 1925.

[9] Cavagnis, V.: Compt. rend. Acad. d. sc., Nov. 29, 1886.

[10] Grancher, J., and Ledoux-Lebard: Arch. de méd. expér. et d'anat. path. **2**, 1891.

[11] Dixon: Medical News, Philadelphia, Oct. 19, 1889.

[12] Trudeau, E. L.: New York M. J. **58**: 97, 1893; Medical News, Oct. 24, 1903.

[13] De Schweinitz: M. News, Dec. 8, 1894.

[14] Pearson and Gilliland: Philadelphia M. J., Nov. 29, 1902.

[15] Grancher, J., and Martin, H.: Semaine méd. 1890, number 37.

At the beginning of the twentieth century, little work was done with this type of immunization. In all probability this was due to the striking report made by Theobald Smith,[16] von Behring,[17] von Behring, Römer and Ruppel,[18] and others, that the human tubercle bacillus was not pathogenic for cattle. These observations suggested a new means for prophylactic immunization against bovine infection. The organism used was the human tubercle bacillus, either in its virulent form or slightly altered by prolonged cultivation. Old cultures dried in vacuo appeared to be more suitable for such immunization. It was found that calves inoculated intravenously with such material could be readily immunized against a subsequent lethal dose of bovine bacilli.

Neufeld [19] and Neufeld and Miessner [20] also demonstrated that the ass and the goat could be readily immunized against large doses of very virulent, living tubercle bacilli by previous treatment with from 0.01 to 0.03 Gm. of human tubercle bacilli cultivated on glycerin broth for from thirty to forty days. The resistance in these animals was rather high since they withstood the infecting dose of 0.02 Gm. of bovine tubercle bacilli. However, it was demonstrated that the bacilli could be readily isolated from any lymph nodes after the death of the animal, showing that the infecting organism was not destroyed.

The discovery suggested new lines of experimentation. The method of vaccinating cattle was tried in many parts of Germany, Italy, Sweden and Denmark, and in the United States by Smith,[21] Pearson and Gilliland,[22] and Pearson.[23] The results were very encouraging at first, but it was soon found by Stanley Griffith [24] in England and by Theobald Smith [21] in this country that cattle inoculated with living, virulent human tubercle bacilli may harbor the organism for a long time and pass it into the udder, thus rendering the milk contaminated and unsuitable for use. Naturally, this method of vaccination was open to grave criticism and it was soon abandoned, especially when it appeared to protect the calves only for a year or two.

Failing to obtain desirable results with human tubercle bacilli vaccination in cattle, attenuated and nonvirulent types were again tried. The discovery of the various types of acid-fast organisms offered some new lines of investigation. Moeller,[25] Friedmann [26] and others used the organisms isolated from the slow-worm, turtle and carp, with the hope of finding among them an organism which had good antigenic and immunizing properties. The results from all experiments with such types of organisms have failed to show their value in immunity in tuberculosis.

Klimmer [27] introduced a type of vaccine called by him "antiphymatol." It was composed of two fractions. The first consisted of human tubercle bacilli which were heated at from 52 to 53 C. and designated as T. H. The second fraction was prepared from an avirulent culture of human tubercle bacilli isolated from the body of the salamander and was marked A. T. These two were mixed in equal parts and used as a vaccine. The inoculations were made either intravenously or subcutaneously. The claims for this vaccine, after an extensive trial in Saxony, were soon disqualified.

A type of attenuation following very closely Pasteur's experiment with chicken cholera was that of Arloing,[28] who cultivated the organism at the bottom of the broth culture medium and not at the surface as is the common practice. Cultures so inoculated were shaken every day. The temperature of the incubator was raised after each subculture, beginning with 37 C., until finally it reached 46 C. Organisms developed rapidly at first, but soon their growth was retarded somewhat at the higher temperature. Organisms developed, however, at the bottom of the culture medium even at the higher temperature. This method of cultivation rendered them nonpathogenic and nonacid-fast. Two injections of these modified organisms made at intervals of from three to three and one-half months were sufficient, according to the originator of this method, to render the experimental animal immune to a subsequent virulent inoculation. When the method was tried on a large series of animals, it failed to prove of value.

With the introduction of the sensitized typhoid vaccine by Besredka, an attempt was made by Vallée and L. Guinard [29] to sensitize tubercle bacilli with some antituberculous serums. A serum containing a high titer of agglutinating and complement-fixing antibodies was obtained by inoculating animals first with dead, and then with living, virulent organisms. A definite amount of living tubercle bacilli was mixed with this serum. After a short incubation at 37.5 C., the mixture was centrifugalized, the supernatant fluid was discarded, and the organisms were suspended in salt solution and used for immunizing purposes. It was asserted that by this method the tubercle bacilli had adsorbed the antibodies, and that the antigen plus antibodies was much more effective in producing immunization than tubercle bacilli alone. The theory was very plausible and there is no question that it has merit; but as there has been no study on a large scale to prove the value of this method, opinion must be reserved.

In a review of the subject, the various vaccines prepared from tubercle bacilli modified by chemical means cannot be completely ignored. Auclair [30] and others found that the property which caused the abscess formation when living or dead organisms were inoculated into animals could be separated from the micro-organism through the use of lipoid solvents such as alcohol, chloroform, benzene and toluene. As the protein fraction of the micro-organism is the chief antigenic component, the theory was to remove the lipin fraction as it produces no antibody but undesirable abscesses.

Martin and Vaudremer [31] first washed the tubercle bacilli with ether in order to remove the water and glycerin; then they allowed the organism to remain in ether for six weeks. Guinea-pigs sensitized with these supposedly fat-free tubercle bacilli had more resistance to the infecting dose than the control animals. Vallée [32] vaccinated calves with tubercle bacilli which previously had been washed with purified petroleum benzin by a mechanical shaking device for fifty hours. The organisms so treated almost completely lost their acid-fast properties. Using the intravenous route, he sensitized animals with from 25 to 100 mg. Considerable resistance against fatal infecting doses was noted Citron and Bruck, and Deycke and Much substantiated this, reporting a marked degree of resistance obtained against virulent infection when organisms so treated were used.

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[16] Smith, Theobald: J. M. Research **18:** 451-485, 1908.

[17] Von Behring, E.: Ztschr. f. Thiermed **6**, number 5/6.

[18] Von Behring, E.; Römer, P. H., and Ruppel, W. G. Jahresb. über path. Mikroorg. **18:** 461, 1902.

[19] Neufeld, F.: Deutsche med. Wchnschr **30:** 660, 1241, 1904.

[20] Neufeld, F., and Miessner: Ztschr. f. Hyg. u. Infectionskrankh **51:** 300, 1905.

[21] Smith, Theobald: The Parasitism of the Tubercle Bacillus and Its Bearing on Infection and Immunity, J. A. M. A. **46:** 1247 (April 28) 1906.

[22] Pearson, L., and Gilliland: Pennsylvania Univ. M. Bull., 1906.

[23] Pearson, L.: Rev. Henry Phipps, Inst. **2:** 311-381, 1906.

[24] Griffith, Stanley: J. Path. & Bact. **17:** 323, 1913.

[25] Moeller, P.: Ztschr. f. Tuberk. **5:** 206, 1903.

[26] Friedmann, F. F.: Deutsche med. Wchnschr. **29:** 954, 1903; **30:** 166, 1904.

[27] Klimmer: *Ztschr. f. Thiermed.* **12:** *31, 1908*.

[28] Arloing, S.: Compt. rend. Acad. d. sc. **142:** 1395, 1906.

[29] Vallee, H., and Guinard, L.: Compt. rend. Acad. d. sc. **150:** 1140, 1910.

[30] Auclair: Rev. de la tuberc. number 1/2 (Jahresb. über path. Mikroorg. **20:** 554, 1904).

[31] Martin, L., and Vaudremer, A.: Compt. rend. Soc. de biol. **61:** 258, 1906.

[32] Vallee, H., quoted by Calmette, Tubercle Bacillus Infection and Tuberculosis in Man and Animals (trans.), Baltimore, Williams & Wilkins Company, p. 630.

Tubercle bacilli treated with the halogens—bromine, chlorine, iodine and fluorine—lose somewhat their acid-fast properties. Moussu and Goupil[33] found that tubercle bacilli lose their acid-fast properties after three days' extraction with Javel water Organisms so treated were used in dogs and rabbits. Some degree of resistance was reported

Calmette, Guerin and Breton,[34] chlorinating the bacilli and administering them by mouth, found that a slight protection could be established by this method. Rappin,[35] using sodium fluoride in changing the acid-fast properties of tubercle bacilli, reported a slight degree of resistance from their use Noguchi[36] and Marxner,[37] treating the tubercle bacilli with sodium or ammonium oleate, reported results very similar to those already stated Urea and galactose were also used to attenuate the organisms, but with less success. Deycke and Much[38] obtained some encouraging results with tubercle bacilli which have been suspended in ovolecithin Using a large series of guinea-pigs, they have unquestionably demonstrated to their minds a degree of resistance in guinea-pigs treated with such a preparation.

Rabinowitsch[39] found that if tubercle bacilli were cultivated on a medium containing formaldehyde, the virulence was very much attenuated The results obtained in establishing immunity, however, were not any more encouraging than those already reported.

Instead of employing the various chemical reagents to kill the tubercle bacilli, Trudeau,[40] Di Donna[41] and also V. and Mme Henri[41] used the radiations from the various parts of the spectrum to kill the organism, the first two by direct sunlight and the latter by the ultraviolet rays. The results were practically nil.

Considerable enthusiasm and interest have been shown in the last few years in the experiments reported from the Pasteur Institute on immunity in tuberculosis Calmette and Guérin,[42] who have championed this investigation, report that they have obtained some remarkable results with organisms modified by cultivation Tubercle bacilli of bovine origin, isolated in 1908, had been passed through 230 successive subinoculations on a special medium devised by Calmette, which consists of potato saturated with concentrated bile containing 5 per cent glycerin. It is said by these authors that this organism, which is designated as B C G, is not infectious or toxic for calves even if 100 mg. is inoculated intravenously The culture was tested on calves, and the method was as follows Two inoculations, one month apart, of from 5 to 20 mg of B C G were made either intravenously or mixed with the food and fed to the animals. The virulent inoculation test to determine the immunity was made one month after the last vaccination, the dose consisting of 3 mg. of virulent bovine tubercle bacilli. Even a single subcutaneous injection of B C G (from 50 to 100 mg) in the calf gave complete protection to 5 mg. of virulent bovine cultures. In the earlier reports they stated that the animals inoculated with this vaccine remained perfectly well, and when they were killed eighteen months later, tuberculosis could not be found at autopsy in the lungs, abdominal viscera or any of the lymph nodes. Recently, however, on more careful examination, they found that the tracheal and mediastinal lymph nodes of a bullock vaccinated eighteen months previously, when inoculated in guinea-pigs, produced generalized tuberculosis. It is evident, they say, that the virulent tubercle bacilli were not destroyed in the vaccinated animals but arrested, preventing a generalized tuberculosis. The controls, on the other hand, manifested a picture of generalized tuberculosis. The experiments were carried out with rabbits, guinea-pigs, monkeys, chimpanzees and other types of anthropoids, the subcutaneous, intravenous and gastro-intestinal routes being used for injection. The large amount of experimental data at hand convinced them that it was safe to apply this type of vaccination to children.

The organisms were generally cultivated on solid mediums, such as potato bile, or, if a large amount of growth was desired, Sauton's synthetic medium could be used. No other instructions are given, with the exception that a growth not older than twenty-five days or a suspension not older than ten days should be considered suitable for immunization. After the proper amount of growth had been accumulated, the organisms were aseptically collected and triturated with salt solution. The most desirable suspension was that in which 1 cc contained 500,000,000 organisms, or 10 mg of tubercle bacilli. The vaccination of babies was accomplished by mixing 1 cc. of this suspension with a small amount of milk and giving it to the infants before nursing Three such doses were given at intervals of forty-eight hours, on the third, fifth and seventh days after birth.

The gastro-intestinal tract was selected as the portal of entry for vaccination for the reason that Disse and Ehrlich had previously pointed out that the mucous membrane of the intestines in newly born infants is not completely developed until one week after birth, thus favoring a proper permeability not only to the whole protein molecules, but to whole bacteria which can readily be absorbed into the lymphatic system

The following is a summary[43] of some of the results obtained on children to date: In the first period of their work, i. e., from July, 1921, to June, 1922, Calmette and Weill-Hallé vaccinated 120 infants. Eighty of these could be located in 1926 and proved to be in good health Twenty-four of the eighty have been living in surroundings infected with tubercle bacilli. Only one, however, remained with its tuberculous mother and two others with the father, who was a tubercle bacillus carrier. No further details are given.

In the second period, i. e, from June, 1924, to May 31, 1926, they vaccinated 356 infants One hundred and forty-five, or approximately 40 per cent, continued under their observation. Of these 145, 111 are living in surroundings supposedly free from tuberculosis and thirty-four remained in contaminated surroundings. Of these 145, twenty-one are dead, four having belonged in the group of thirty-four children who were in tuberculous surroundings, or approximately 12 per cent. The other seventeen, or 15 per cent, belonging to families with no history of tuberculosis, died from various diseases other than tuberculosis. The history of the causes of death lacks details, and the authors are not certain as to the actual cause of death, since it is not stated that autopsies were performed on these children.

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[33] Moussu and Goupil Compt rend Acad d sc **145**: 1231, 1359, 1907, **146**: 44, 1908

[34] Calmette, A , Guerin, C , and Breton, M Ann de l Inst Pasteur **21**: 401 1907

[35] Rappin Compt rend Acad d sc **149**: 408, 1909, **164**: 421, 1917

[36] Noguchi, Hideyo Centralbl f Bact , I, orig **52**: 85, 1909

[37] Marxner, A Ztschr f Immunitäts **10**: 118, 1911

[38] Deycke, G , and Much, H Centralbl f Bakteriol , I, orig. **54**: 342, 1910

[39] Rabinowitsch Berl klin Wchnschr **50**: 114, 1913

[40] Trudeau L L M News **87**: 1 3, 1905

[41] Quoted by Calmette Tubercle Bacillus Infection and Tuberculosis in Man and Animals p 634

[42] Calmette, A , Guerin C , and Weill Halle, B Presse med **32**: 553 (July 2) 1924, **33**: 825 (June 20) 1925, Ann de l Inst Pasteur **40**: 89 (Feb) 1926

[43] Calmette, A , and Weill Halle, B National Tuberculosis Association, Washington, D C , October, 1926

From July, 1924, to June, 1926, throughout France, they vaccinated more than 11,208 children. Only 1,885 of these were under their observation. Of these, 291 were born in tuberculous surroundings, of which eleven, or approximately 4 per cent, died, eight from meningitis and three from gangliopulmonary tuberculosis. Of the 563 vaccinated from six months to one year prior to June 30, 1926, of whom 106 were born of tuberculous mothers, two died, presumably of tuberculosis.

A careful analysis of the various figures presented by the authors show them to be rather confusing. It seems wiser to figure the percentage of the two groups separately; i. e., the infants born in tuberculous surroundings and those born in healthy families. Figures so gathered may be of some value. The death rate, according to Calmette, is 25 per cent in nonvaccinated children in contaminated surroundings during the first year, a rate which has been disputed by Loewenstein,[41] who states that even in the city of Vienna, which has the largest infant death rate, it does not reach nearly this figure. Any attempt, therefore, to compare this figure with the death rate of the vaccinated group, which represents the whole number of infants living in infected and healthy surroundings, is not justifiable. One other rather puzzling statement made is that the skin test was positive in only 6 per cent of 100 children tested after vaccination.

The studies reported by these authors are very interesting. If the conclusions based on experimental data prove to be correct in the hands of other workers, then this method should afford a good means of prophylactic immunization. Nevertheless, the method must not be accepted too hastily. How much the prevention campaign which in part is associated with the vaccination procedure has influenced the decrease of infection at present cannot be determined. I cannot help being a little skeptical for the reason that many statements made do not fit the present concepts of immunity in tuberculosis. This is especially true of the claim that the B C G bacilli do not develop anatomic tubercle or skin hypersensitiveness; and again there is the possibility of the organisms mutating back to their original virulence.

VACCINATION WITH KILLED TUBERCLE BACILLI

Perhaps the bulk of experiments since the discovery of the tubercle bacillus has accumulated in the attempt to establish immunity with dead organisms. Koch was probably the first to use this method for treatment and immunization. Babes and Proca,[45] Prudden and Hodenpyl,[46] Straus and Gamaleïa,[47] and Trudeau[40] were forerunners in such investigations. Prudden and Hodenpyl were the first to point out that the anatomic structure of the tubercle set up with dead organisms did not vary in its structure from that caused by living organisms. Babes and Proca, so far as I know, were the first to obtain generalized systemic tuberculin reactions in animals sensitized with dead tubercle bacilli. Trudeau, Baldwin and Kinghorn[48] repeatedly demonstrated the correctness of these observations. Trudeau,[40] studying the immunity produced with heat killed cultures and comparing it with that produced with a series of living, attenuated, human culture, R_1, concluded that the resistance in animals immunized with dead cultures was less pronounced when compared with that in animals given attenuated, living organisms, though more than that in the control animals. In the former, the average length of life was 155 days. The average in the experiment with heat killed tubercle bacilli was ninety-nine, while in the control animals it was only seventy days.

I. Straus,[49] by repeated inoculations with a small amount of tubercle bacilli killed by heat, and by spacing the inoculations from ten to twelve days apart, demonstrated increased resistance against tuberculosis in rabbits. In testing this immunity he used 2 mg. of living bovine bacilli. Dembinski[50] carried out some similar experiments, which consisted in infecting the meninges and the brain of rabbits. Animals were sensitized by subcutaneous inoculation with increasing doses of dead tubercle bacilli on seven occasions, the dosage varying from 0.1 to 1.0 mg. After this procedure, he inoculated intracerebrally 2 mg. of living culture. None of the animals developed meningeal tuberculosis, while the controls died within twenty-eight days. A proper criticism which may be made of this work is that at the time the identity of the tubercle bacillus which he was *using was not known. Probably* he was not working with the bovine organism.

Calmette, Guérin and Breton[31] experimented with guinea-pigs, using the enteral route for sensitization, and concluded that the protective value of the killed tubercle bacilli was slight. However, they, as well as other investigators, used 5 mg. of virulent, living tubercle bacilli to test the protection. In a second experiment two inoculations were made, the first with 5 mg. of bacilli heated at 100 C. and the second with the same amount of organisms but heated only to 65 C. Forty-five days after sensitization, the sensitized and the control animals were inoculated with 10 mg. of virulent, bovine tubercle bacilli. In spite of this massive infecting dose, many of the sensitized animals lived from seven to nine months, outliving the controls. Smith and Lewis[51] failed to notice any appreciable amount of resistance in animals treated with heat killed tubercle bacilli. The experience of Dienes and Schoenheit,[52] Selter and Geschke[53] and Dold[51] has been the same.

Experiments with cattle are of considerable interest. Calmette and Guérin[55] immunized some cattle with

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[44] Loewenstein: Personal communication to the author.

[45] Babes, V., and Proca, G.: Ztschr. f. Hyg. u. Infectionskrankh. **23**: 331, 1896.

[46] Prudden, T. M., and Hodenpyl, E.: New York M. J. **53**: 637, 697, 1891.

[47] Straus, I., and Gamaleïa, N.: Arch. de méd. expér. et d'anat. path. **3**: 705, 1891.

[48] Trudeau, E. L.; Baldwin, E. R., and Kinghorn, H. M.: J. M. Research **12**: 169, 1906

[49] Straus, I., quoted by Calmette: Tubercle Bacillus Infection and Tuberculosis in Man and Animals, p. 627.

[50] Demlanski: Compt. rend. Soc. de biol. **55**: 1409, 1903

[51] Smith, Theobald: Certain Aspects of Natural and Acquired Resistance to Tuberculosis, J. A. M. A. **68**: 766 (March 10) 1917

[52] Dienes, L., and Schoenheit, E. W.: Am Rev Tuberc **13**: 373 (April) 1926.

[53] Selter, H., and Geschke: Ztschr. f. Hyg. u Infectionskrankh **102**: 303-312, 1924.

[54] *Dold, H.: Klin. Wchnschr. 4: 1763 (Sept. 10) 1925*

[55] Calmette, A., and Guérin, C.: Ann. de l'Inst Pasteur **28**: 329, 1914.

tubercle bacilli heated at 60 C. for thirty minutes. Thirty days after sensitization 3 mg. of living, virulent, bovine culture were given to the controls and also to the sensitized animals. The results were very encouraging. In the control animals there was generalized tuberculosis involving the viscera and scattered through the body, while in the vaccinated animals there was tuberculosis only in the bronchial and mediastinal lymph nodes, which were very much enlarged and caseous.

Loeffler [56] was inclined to believe that killed tubercle bacilli can protect dogs against virulent infection but that this protection is not absolute but relative. The organisms used by him were desiccated and killed by dry heat. In animals inoculated with such a suspension, a certain degree of protection was noted. Many of the animals tolerated the injection of from 250 to 300 mg. of human tubercle bacilli intraperitoneally.

The proposal to apply this type of vaccination in children has not yet received favor, and the method has *not been thoroughly tried thus far.* Langer,[57] however, vaccinated some children with dead tubercle bacilli, after which he observed skin hypersensitiveness develop. The experience of Fedders [58] has been the same. In fact, the experiments have not advanced far enough to warrant the drawing of any conclusion. Nathan Raw [59] probably has reported the largest series of children vaccinated with dead tubercle bacilli. After obtaining considerable experimental data with guinea-pigs and cattle, using killed tubercle bacilli, he vaccinated 412 children from 1½ to 14 years of age. Six injections, at weekly intervals, consisting of from 0.001 to 0.006 mg., were made. The children were all from tuberculous surroundings In no instance was any discomfort or ill effect experienced, and during a study lasting four years not a single child in this group died of tuberculosis.

With the introduction of the intracutaneous test by Mantoux and Moussu,[60] the allergic state which was always present in infected animals could be more carefully studied and followed. Romer,[61] in a very extensive experiment, concluded that skin hypersensitiveness ran parallel with immunity, and there are a good many followers of his doctrine on immunity Previous to the discovery of the intracutaneous test, the reaction described as the tuberculin reaction was nothing but a generalized systemic reaction, terminating sometimes in death. Romer reported obtaining a positive skin reaction in a few animals when dead tubercle bacilli were used as the sensitizing agent. Another small series of animals was reported by Baldwin.[62] From time to time there was some mention made in the literature of the fact that animals treated with dead tubercle bacilli are hypersensitive and will give a positive skin test, but I have failed so far to find any other experiments with dead tubercle bacilli but those which I [64] reported, dealing strictly with tuberculin hypersensitiveness as demonstrated by the tuberculin skin test and the relationship of such hypersensitiveness to immunity.

For this reason, in the fall of 1920 the study of the immunity obtained with dead tubercle bacilli was undertaken. The object of these experiments was, first, to make a systematic study of dead tubercle bacilli in order to produce an allergic state, as demonstrated by the intracutaneous reaction, and, second, to determine the degree of immunity following their injection. During the five years thousands of guinea-pigs were used in carrying on these experiments. The following method was adopted:[63] Human tubercle bacilli, H_{37}, were cultivated on ordinary broth mediums. After eight weeks the growth was collected by filtration through paper, desiccated and then triturated in a mortar into a fine suspension with physiologic sodium chloride solution. The hydrogen ion concentration was adjusted to p_H 6.8. The suspension was standardized, so that 1 cc. contained 5 mg. of dry bacilli. This was put in small ampules and heated at 100 C. in a water bath for one hour. Animals of various ages and various weights were used to determine the most suitable age and weight for such experiments. It was soon found that guinea-pigs of from 350 to 400 Gm. were most suitable, and a total amount of approximately 7.5 mg. of dead bacilli in three periods, four days apart, was the favorable dosage. The intraperitoneal route was found to give the most effective result. Animals so treated lost a little weight after each injection, but as soon as the injections were stopped a gradual increase was noticed. From ten to fifteen days after the last injection of dead tubercle bacilli, a definite, positive, intracutaneous skin reaction could be elicited by a 5 per cent dilution of old tuberculin. The reactions varied in intensity and were strongest from three to four weeks after the last sensitizing injection. The majority of the animals gave a reaction from 20 to 25 mm. in area, well defined, with erythema and induration, and resulting in a big necrotic center. The skin hypersensitiveness persisted for 470 days [64] in some of the animals studied. At the end of this time the reaction was somewhat feeble but nevertheless definitely positive.

My next step was to find out how stable this suspension of tubercle bacilli was. Ampules were prepared by the method described and sterilized in an autoclave at 15 pounds pressure for one-half hour. Even after such destructive treatment of the bacilli, the animals inoculated responded positively to the tuberculin skin test.

Having convinced myself that skin hypersensitiveness could be established with the use of dead tubercle bacilli, I attempted [65] to find out if various other allergic phenomena could be observed in animals treated with dead tubercle bacilli. Such are the pleural and peritoneal exudation as shown by the phenomena of Paterson [66] and Pfeiffer; also the Koch intracutaneous phenomenon [67] and the reaction in the testis.[68] In every instance the allergic reactions were identical with those described when living organisms were used.

Lastly, my aim was to determine what degree of resistance to infection could be established in animals treated with dead tubercle bacilli.[69] In experiments of this nature there are many errors which may prevent one from drawing a definite conclusion, of which I shall make note later. Four hundred animals were used for the study of the immunity produced with dead tubercle bacilli, and the work investigated continued through a period of four years. Two hundred animals were inoculated at various times with dead tubercle, and after the development of skin hypersensitiveness were infected with H_{37}, a virulent strain of tubercle bacillus of human origin. At the same time, a like number of controls of approximately the same age and weight were used. All infecting inoculations were made subcutaneously, the dosage varying from 0.001 to 0.004 and in some instances 0.01 mg. When tabulating my results at the end of the experiment, I had only ninety-seven sensitized and ninety-six controls which could be used for analyzing my results. Most of the animals died either at the preallergic stage or during the sensitization period, with the exception of a few which died after infection. For this and other reasons, I adhered to a rule that only animals living fifty days or longer after the infection should be included in such a study. In summarizing my results I found that the average days of life in the ninety-seven sensitized animals was 193 and that of the controls 147. In other words, the sensitized animals outlived the controls by an average of forty-six days. The gross appearance at the autopsy also presented a different picture in the two series. There was much more macroscopic tuberculosis in the controls than in the sensitized animals.

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[56] Loeffler, F. Deutsche med Wchnschr **39:** 1025, 1913

[57] Langer, H Klin Wchnschr **3:** 1944 (Oct 21) 1924

[58] Fedders Deutsche med Wchnschr **51:** 1659 (Oct 2) 1925

[59] Raw, Nathan Brit M J **1:** 594 (April 23) 1921, Practitioner, **108:** 229 (April) 1922, Brit M J **2:** 102 (July 19) 1924, Proc Roy Soc Med (Sect Compar med) **18:** 25 (July) 1925

[60] Mantoux, C, and Moussu, M Compt rend Acad d sc **147:** 502, 1908

[61] Römer, P H Beitr z klin d Tuberk **14:** 1-35, 1909

[62] Baldwin, E R Tr Nat Ass Study & Prev Tuberc, 1911, p 352

[63] Petroff, S A Am Rev Tuberc **7:** 412 (Aug) 1923

[64] Petroff, S A J Immunol. **9:** 309 (July) 1924.

[65] Petroff, S A, and Stewart, F. W.: J Immunol **10:** 677 (July) 1925

[66] Paterson, R C · Am. Rev. Tuberc. **1:** 353 (Aug) 1917.

[67] Koch, R Deutsche med Wchnschr. **17:** 101, 1891.

[68] Long, E R · Am Rev Tuberc **9:** 215 (May) 1924

[69] Petroff, S A, and Stewart, F W.. J. Immunol. **12:** 97 (Aug) 1926

This is not a remarkable result, but it clearly established in my mind that an increased state of resistance in healthy animals can be created with the injection of dead tubercle bacilli. It is obvious that the resistance established was only relative, not capable of warding off the massive infection. A study was made to determine the number of infecting bacilli that could be used to advantage in such experiments, by tracing the local reaction after their inoculation in animals sensitized with dead tubercle bacilli.

It has been known for a long time that the allergic reaction is seen in the eye to much better advantage than in the skin or in concealed organs. A series of fifty guinea-pigs were therefore sensitized with dead tubercle bacilli. After the development of skin hypersensitiveness, ocular inoculation of living, virulent organisms was made directly through the center of the lens into the vitreous humor. This inoculation was followed by a slight chemosis, mild conjunctivitis with photophobia due to the trauma of the injection. This, however, soon subsided. The animals were killed at various intervals, and histologic studies were made of the eyes and various lymph nodes in an effort to trace the path of the tubercle bacilli in the sensitized and control animals. The results were very interesting. The sensitized animals were not entirely free from tuberculosis, but when they were compared with the controls it was evident that the allergic state prevented the rapid dissemination of the virulent organisms. If the animals were not killed, eventually they would have died of generalized tuberculosis, as the sensitization did not wholly prevent an infection but retarded the dissemination of the organisms. The progress of the disease in the sensitized was not as rapid as in the controls. From the histologic studies it was noted that when large numbers of organisms (approximately 160,000) were inoculated into the anterior chamber of the eye, in the sensitized animals, because of a local allergy, some of the organisms became fixed, preventing their further progress or dissemination. They remained in this location for some time, in all probability increasing the allergic state. Some of the organisms were carried further on to the regional lymph nodes, the posterior auricular, where they were again arrested; others which escaped were carried on to the cervical and then to the bronchial lymph nodes, and thence through the body. Had a minimal infecting dose or perhaps tenfold, or even a hundredfold of that dose been inoculated, I believe that the results would have been much more striking.

This, and many other experiments in which vaccination with dead and living bacilli was compared, have shown that dead tubercle bacilli can and will protect an animal against an infecting dose and not a massive infection and that there is no basis for the assertion that dead bacilli do not confer immunity (Selter,[53] Dold[54]).

COMMENT

I shall briefly discuss the advantages and disadvantages of the various methods offered for vaccination.

The method of vaccination with living, virulent tubercle bacilli affords a means whereby immunity can be set up with apparently a very small amount of material. The dosage can be so regulated that a massive infection can be avoided. A mild disease without any clinical manifestation is actually being produced. However, it must be remembered that in order to keep this immunity the inoculations must be continued. In other words, the focus with living organisms must persist for the continuance of a satisfactory immunization. It means that to obtain such immunity the price of actual infection must be paid (Loewenstein). And again, in dealing with virulent organisms, one never knows what may happen in the individual when he is subjected to intercurrent disease. Supposing an immunity has been established with living, virulent organisms, what will prevent the breaking down of this resistance and the dissemination of the tubercle bacilli to some distant part of the body which has lost its immunity?

There are not so many serious objections to the use of attenuated and avirulent tubercle bacilli for vaccines as to the use of living, virulent organisms. Recent reports are rather encouraging, and in the light of present knowledge as to the infecting dosage I am inclined to believe that the experimental results will be more impressive than those obtained in the past. From the work of Dixon,[11] Trudeau[12] and, more recently, Calmette and Guérin,[42] it may be concluded, first, that establishing a relative immunity with avirulent organisms in animals is apparently an easy task, and, secondly, that such immunity may last one year or more. But it is not yet certain that the avirulent organisms inhabiting the human or animal body will not mutate or change into virulent organisms. This brings up the question of mutation. I have been fortunate enough to study several types of tubercle bacilli (of known pedigree) such as K_1, R_1, H_{37} and the last offspring of B C G. There is a complete history of all strains since their isolation, and they have been cultivated under ideal conditions by competent bacteriologists. K_1 was said to be a strain of human origin isolated by Koch some forty-four years ago. It has lost its virulence for guinea-pigs, and attempts to restore it have failed. R_1 was isolated by Trudeau more than thirty-five years ago. It has also lost its virulence, and I have had the same failure in my attempt to restore it. H_{37} is an organism isolated from sputum by Baldwin some twenty years ago, and has retained its virulence since isolation. However, interesting and unexplainable diminution in virulence occurred about two years ago in some cultures of H_{37}. The virulence so diminished that in many instances it failed to infect the animals. Fortunately, an old culture of the same H_{37} behaved as previously. This also has been the experience of other workers.

I wish to call attention here to the possibility of error in mixing cultures when there are many organisms of which subcultures must be made. Could it be possible that a strain recently isolated would contain two types of organisms? (I refer especially to microbic dissociation.) Such has been the case with some other organisms. For instance, it has been repeatedly shown that a recent isolation of pneumococcus or Friedländer bacillus may contain two types of colonies, which have been called R and S, differing not only as to their biologic and cultural characteristics, but also in virulence. I believe that some similar thing may happen in cultures of tubercle bacilli, which may contain both virulent and avirulent forms. Under suitable conditions, the virulent organisms may be completely eliminated and, of course, the reverse may also take place. So little is known about the complete life cycle of the tubercle bacillus that speculation may lead one astray. The possibility of mutation cannot be denied, but I believe that to accomplish such changes a long time may be required. The most recent member in the family of the avirulent organisms is the B C G. It has been a virulent bovine bacillus but after apparently short cultivation on special mediums has become avirulent. It would be of interest to know what would happen to this organism if the egg medium was substituted for the special medium, and it was then passed through animals. If the B C G culture, which thirteen or fifteen years ago was isolated from a calf, was a bovine tubercle bacillus, it may be anticipated that after such manipulation in due time its virulence may be regained. Baldwin and Gardner,[70] in testing the virulence of R_1, were able to produce chronic generalized tuberculosis in three of five animals. Large doses were used. These authors state that the possibility of mixing the cultures or misplacing the animal must not be overlooked. More recently, Webb, Ryder and Boissevain [71] reported similar results in producing extensive disease in guinea-pigs with this organism. If this can happen with R_1, then sooner or later a similar change may occur with B C G.

In reference to the immunity produced with dead tubercle bacilli, I have offered nothing striking and no claims were ever made that the idea was original with me. The garment is the same old garment, only patched up with hypersensitiveness so that it can again be worn. The outstanding features which demand renewed attention are that anatomic changes set up by dead tubercle bacilli do not vary from those produced by living organisms (Prudden and Hodenpyl). General tuberculin hypersensitiveness did not vary from that of infected animals (Babes and Proca, Trudeau, Kinghorn, Theobald Smith and others). Skin hypersensitiveness could be set up with inoculations of killed bacilli (Baldwin, Bessau, Langer, Zinsser and Petroff). Various other allergic phenomena could also be demonstrated by this method of sensitization (Petroff and Stewart). In other words, the animals sensitized with dead tubercle bacilli do not vary from those infected, anatomically, allergically or immunologically. It is true that in order to produce the same intensity of reaction many times more dead tubercle bacilli than living organisms must be used, but it must not be forgotten that dead material does not propagate when injected into the body. A definite amount of material is inoculated, and when it is absorbed an additional amount must be added from time to time. With living organisms, it is another problem. No matter how small the dose of infecting bacilli is, there always will be plenty of organisms propagating to replace those used up.

The allergic state is not so transient as the critics would have one believe. It can remain for a long time. It has been my observation that it will remain for 496 days, while Crawford [72] noted it 560 days.

Here I would emphasize a point which I consider to be of major importance. A suspension of killed tubercle bacilli must not be compared with that of a preparation known as bacillen emulsion (B. E.). A suspension of tubercle bacilli consists of intact organisms suspended in physiologic sodium chloride solution having a hydrogen ion concentration of 6.8. I prefer this p_H because any organisms in such suspensions are most stable and are not readily racemised when heated. On the other hand, the bacillen emulsion is prepared from pulverized tubercle bacilli, small fragments of which can pass through a Berkefeld filter. Their action is different. The intact whole organisms do not diffuse so rapidly when inoculated into the body, while the bacillen emulsion, being composed of small fragments of the tubercle bacilli, can more readily diffuse and become absorbed. There is no question that the bacillen emulsion can also sensitize animals, but the sensitiveness does not persist as long in guinea-pigs as when they are sensitized with intact organisms. Following the inoculation of dead bacilli, the formation of a small, nonprogressive lesion ensues which can persist for some time without causing great discomfort. But if the dead tubercle bacilli can set up immunity, why is the experimental evidence submitted not adequate to establish this method in prophylactic immunization? Not a single experiment reported here, regardless of the method and material used, has been complete failure. Very often variation as to the extent of the disease and the average length of life in the animals has been noticed. What is the reason for only a partial success? Perhaps the most recent observations may offer enlightenment in clearing up this problem.

First and of the utmost importance, to my mind, is the dosage of infecting material used in testing the resistance of the animals, and second, the influence of intercurrent diseases.

The Dosage for Inoculation.—In testing the immunity it has been the common practice of all investigators in the preparation of the tubercle bacilli for inoculation to measure and select the doses by weight. This procedure is open to severe criticism. Suspensions of the organisms were not free from clumps, and there was no way of knowing the exact number of organisms in the suspension. During the inoculation, clumps being present, some animals received large amounts and others only a few organisms. Practically every worker has used too large doses of infecting material in testing immunity. From 0.001 mg. (40,000) to 5 mg. (200,000,000) have been used. I have demonstrated and more recently my work has been confirmed by Jennings, that ten virulent tubercle bacilli can readily produce progressive disease in guinea-pigs. Such being the case, then a single animal was inoculated with enough organisms to infect thousands; in other words, completely breaking down the possibility of established resistance. Recovery from typhoid sets up an acquired immunity, but how many who have had typhoid, thus having immunity, are willing to swallow a whole culture of an agar slant?

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[70] Baldwin, E. R., and Gardner, L. U.: Am. Rev. Tuberc. 5:429 (Aug.) 1921.

[71] Webb, G. B.; Ryder, C. T., and Boissevain, C. H.: Am. Rev. Tuberc. 11:247 (May) 1925.

[72] Crawford, A. B.: J. Am. Vet. M. A. 64:228-230 (Nov.) 1923-1924.

The problem of preparing and counting the infecting organisms was solved by Jennings'[73] method, which can be applied in any experiments on immunity. The method consists in the preparation of a suspension of organisms in fifteenth molar sodium hydrogen phosphate solution filtered through two layers of Whatman filter paper and counted in a special counting chamber. The suspension can be diluted to any strength desired; it is stable and the organisms do not agglutinate. One must not overlook the fact that the portal of entry in such experiments as described must be a factor which influences to some degree the dissemination of the bacilli. Probably the most ideal entry is spontaneous infection; but as natural infection is not so common and uniform among small laboratory animals, some other method must be selected. Recently, Cummings,[74] in a review, discusses in detail the usual methods used for infection. If material is inoculated subcutaneously, it may enter directly into a small artery, the veins or lymphatic channel, or it may enter dense fibrous tissue or even muscle or a gland. Accordingly, these various channels may give entirely different pictures. The infection by feeding is liable to still greater fallacies, since there is no means of determining the exact number of organisms that can be absorbed by the intestines. Intraperitoneal and intravenous inoculations are too dangerous and produce very rapid progressive disease. The instillation of the inoculum into the conjunctiva, according to this author, although not free from criticism and errors, can produce lesions in the body without causing a local lesion. It seems obvious that the less trauma one produces in inoculation, the better will be the results, in comparison with natural disease. Perhaps the inhalation method would prove to be best if the dosage could only be determined.

Intercurrent Diseases.—The second factor—the influence of the intercurrent diseases that so commonly occur in small laboratory animals—is of equal importance but has escaped the attention of most investigators. In a recent study[69] it was pointed out that when there was a well established tuberculous disease in guinea-pigs, pneumonia did not occur, an observation which is analogous to that reported by clinicians that pneumonia is a rare disease in active tuberculosis. The unexplainable variation in the extent of tuberculosis in some of the control animals can now be explained. Invariably at autopsy sinusitis and infection of the middle ear, and no tuberculosis, could be found in animals which had been inoculated with a fatal dose of tubercle bacilli, all other organs appearing perfectly normal. In other words, where there was a chronic intercurrent disease there was no tuberculosis, and vice versa. This, however, depends on the dosage.[75]

CONCLUSIONS

In this fragmentary review of what has been done to devise some methods that can be used for prophylactic immunization, the laboratory investigator can only suggest and pass on to the clinician some principles or methods based on experimental data. The clinician, on the other hand, may accept or reject them. The objection has been raised that conclusions arrived at from experiments with small laboratory animals, animals having a short life, may not hold in human beings, in whom the development of the disease, in all probability, pursues a different course. Such an objection is absurd. There must be and there is individual variation of the reaction to the organism, but the basic principles of infection and immunity in tuberculosis are the same in animals and in human beings.

The fault with all experiments in tuberculosis has been an attempt to create an absolute immunity against infection with tubercle bacilli. This cannot be accomplished. Such immunity is not needed; a relative immunity which can prevent an infection with a small number of organisms is sufficient. I believe there are only a few cases in which the infection is due to a massive dose.

The immunity established with living, virulent organisms is effective, but the compensation paid for such an immunity is expensive.

Vaccination with avirulent organisms is a safer procedure than vaccination with virulent organisms, but it is not known what may happen to such organisms after they have been passed through the body several times.

With dead tubercle bacilli, the immunity established is more than partial. Experiments so far have indicated this to be the case, and there is no danger in using such material.

The tubercle bacillus does not propagate outside the body. Its existence depends on the parasitic part it plays in the human body. When any type of living organism is used for vaccination, regardless of whether it is virulent or avirulent, the organism is not eliminated but instead a resistance is established in the host. The organism passing from its nonparasitic cycle in nature into the parasitic cycle in the human being or animal, where it may play a double rôle, may or may not cause disease. It may help the organism to propagate either as a parasite or a saprophyte, sooner or later finding its way out of the host into nature and acting as a menace to some other person or animal having less resistance. This chain of events may continue for a long time, causing changes which may alter the virulence of the organism, i. e., changing the avirulent or harmless organism into a virulent one.

But if the dead tubercle bacilli are used for immunization purposes, all the dangers cited are eliminated. Thus, I believe that dead tubercle bacilli or some of their derivatives can be used safely and effectively in immunizing the human race.

The Basis of Medicine and Surgery.—Physiology forms the basis of medicine and surgery. Until lately it was known in this university as the Institutes of Medicine, which, being interpreted, means the Foundations of Medicine; the term is still used in Trinity College, Dublin. . . . For the study of physiology a prior knowledge of three other sciences is essential. These are physics, chemistry and anatomy. The application of physics to physiology or biology is termed biophysics; that of chemistry, biochemistry. The one deals with the physical changes associated with the functions of the living body, the other with the chemical changes. But we cannot understand the working of a machine without a knowledge of its structure, and this is where anatomy comes in.—Sharpey-Schafer, Edward: *Lancet,* June 25, 1927.

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[73] Jennings, F. B., Jr.: J. Infect. Dis. **39:** 310 (Oct.) 1926.

[74] Cummings: Read before National Tuberculosis Association, Washington, D. C., October, 1926.

[75] Branch: Personal communication to the author.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JULY 23, 1927

THE PATHOLOGY OF OVERDOSAGE WITH PARATHYROID HORMONE

The well established demonstration of a lowered calcium content of the blood plasma as a consequence of parathyroid deficiency naturally led to the assumption of a functional relationship between calcium metabolism and the parathyroids. This is by no means the only sort of activity that has been assigned to these glandular structures; but as the estimation of calcium in the circulating fluid is a procedure that can be carried out with accuracy and affords something definite for consideration, this aspect of the subject has received more critical study. Several investigators have advanced knowledge through the added demonstration that suitable extracts of the parathyroids, introduced into the body, actually have a measurable effect on the concentration of the plasma calcium. This has afforded a concrete basis for the investigation of the parathyroid hormone. Collip has shown that the concentrated product of the acid hydrolysis of parathyroid glands, injected into animals in severe tetany following parathyroidectomy, quickly restores them to normal condition, at the same time raising their plasma calcium to normal level and holding it there longer than the administration of calcium salts can do, whether these are given by mouth or injected. Such animals can be kept free from tetany for months, though, if injection of the extract is stopped, tetany recurs within a day or two. Thus the requirements of "replacement" therapy, that is, the evidence that the alleged hormone represents the active principle of the parathyroid glands, have been satisfied.

It is not surprising that a product exhibiting such definite physiologic potency as is shown by the parathyroid extracts should have been requisitioned promptly for clinical application. There seemed to be a field for its use in many cases in which the administration of calcium salts had been practiced for therapeutic purposes. This applies, for example, to certain types of tetany and in lesser degree to alleged defects of calcification in the body. Early in his studies Collip warned against the possible dangers of overdosage with parathyroid hormone. The current view of their normal function, as Cameron[1] has recently reviewed it, is that the parathyroids elaborate an internal secretion which controls the formation of a nondiffusible calcium compound in the blood, and that this, by a series of interlocked equilibriums, keeps the diffusible calcium compounds of the blood to a constant ratio with itself. If the parathyroids function normally, the compound under their control will be kept at constant concentration and therefore the total blood calcium will remain constant. The slightly higher value for the plasma calcium of infants' blood suggests a more active parathyroid function.

If, on the other hand, the parathyroid hormone is administered in large doses and at repeated short intervals, the calcium of the blood is increased much above the normal level. When it is about twice normal, other symptoms intervene—atonia, profound depression, anorexia, ataxia, vomiting, bloody stools—and finally death ensues. The same increased blood calcium, and ultimately fatal ending, follow injections of the extract into the normal animal. So far no antidote has been found for these effects from overdosage; evidently, as Cameron insists, chemical control must at present be employed during the administration of the extract in clinical cases.

Some possible untoward effects of hypercalcemia induced by overdosage with parathyroid hormone have been ascertained by Hueper[2] at the Loyola University School of Medicine. They include metastatic calcifications in various organs, notably the thyroid glands, lungs, heart muscle, stomach, duodenum and kidneys. Hueper believes that the calcifications have their most marked injurious effect on the functions of the organs involved in the case of the renal structures. The gradually increasing calcification and destruction of the tubular epithelial cells, and the formation of calcium casts in the lumens of the tubules blocking the drainage of the urine from the kidney, impair the renal function more or less and induce a retention of various components in the blood, with deleterious effects for the organism. In view of his experimental results one can well appreciate Hueper's warning against ill advised therapeutic use of the parathyroid hormone. Its artificial introduction into the human body, he insists, is connected with certain dangers, and should not be undertaken without a proper control of the blood calcium level to avoid alterations, in the organs, that may become definite, irreparable and fatal. According to Hueper, an increase of the blood calcium to from 10 to 15 mg. per hundred cubic centimeters over a longer period of time may be produced without greater risk for the patient. But, he adds, the elevation of the blood calcium above this level will probably soon cause dangerous symptoms of the circulatory system, the stomach and the kidneys. Preparations of the parathyroid hormone should not be employed without discriminating intelligence.

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[1] Cameron, A. T.: The Biochemistry of Calcium, Canad. M. A. J. **16**: 753 (July) 1926.

[2] Hueper, W.: Metastatic Calcification in the Organs of the Dog After Injections of Parathyroid Extract, Arch. Path. **3**: 14 (Jan.) 1927.

THE UNCERTAINTIES OF PUBLIC HEALTH EFFORTS

The doctrine that public health is a purchasable entity no longer is difficult to promote. The evidences of the efficacy of preventive medicine and the good health propaganda of recent years are becoming apparent in many ways. The resistance against expenditures for the protection of health as well as the care of the unfortunate sick is breaking down. Almost every community has begun to insist on a certain amount of "health service," even though this may as yet represent only a minimum standard. The principle that the safeguarding of the life and health of the people is, in some measure at least, a governmental responsibility is taking root in our population. Accordingly, this is a propitious time for promoting the enterprises of public hygiene and, in the words of a vigorous advocate, of "selling public health."

Good salesmanship implies an ability to demonstrate the value of the product under consideration, or at least of presenting a fairly convincing argument in favor of its presumptive advantages. The promotion of a market for the ventures in the domain of the public health is continually exposed to the difficulty of clear-cut demonstrations of the actual virtues of specific projects. One may speak glibly yet truthfully about the reduction in death rates in general, and notably in connection with certain diseases, such as typhoid and diphtheria. One may laud the decreased infant mortality and the more effective treatment of many distressing maladies. But when the custodian of the public funds or the taxpayer himself asks whether a definite proposed expenditure is likely to accomplish directly measurable results, whether his dollars are fairly certain to bring about a determinable decrease in morbidity or a definable eradication of disease, the direct answer to the queries is by no means always to be given.

The time has arrived, therefore, for urging support of many public health measures recognized as rational, even though, as Ferrell[1] recently remarked, before the Conference on Public Health in Chicago last March,[2] the basis of measuring tangible results is not clear-cut. Welfare results are not infrequently incident to hygienic projects planned for other purposes. As Mendel[3] recently declared, there is too little realization of the fact that contributions of large practical importance have not infrequently been the by-product of research rather than the immediate goal of the investigator. An investment in reasonably formulated activities is frequently a gamble, yet a legitimate financial venture. Years ago the late W. T. Sedgwick demonstrated that the better sanitary control of watersheds and their potable waters resulted not only in the reduction of the incidence of typhoid, with which the efforts were primarily concerned, but also in a measurable decrease in other apparently coincident maladies. The theory that if children do not become otherwise ill they are less likely to develop tuberculosis justifies the efforts to "keep well babies well." Public confidence in health organizations and their possibilities is justified on general grounds with confidence in the ultimate good. Although, as Ferrell has remarked, it is not possible to evaluate accurately the influences that have produced the numerous benefits on record, it is reasonably certain that among contributing factors have been a broader and more accurate knowledge of diseases and of methods for their prevention and cure, a better educated public, better trained physicians, dentists and nurses, more adequately equipped hospitals, larger average earning capacity, higher and more hygienic standards of living, better diet and housing conditions and, emphatically, the work of health agencies, official and voluntary. The measurement of each influence is not an easy task; nor should this fact discourage any reasonable essay in the domain of the public health.

FASHIONS IN RESEARCH

Enthusiasm for the new is not infrequently permitted to obscure the merits of that which has preceded it. A new method of treatment tends to displace its predecessors for a time until, not infrequently, the glamor of the supposed advantages is dimmed; whereupon the older tried procedures are occasionally restored to some of their former vogue. New drugs are acclaimed loudly until their limitations are discovered and they find their proper place in the physician's armamentarium. It was so with arsphenamine and a host of other compounds, each of which was expected to accomplish wonders, many of which have found favor, but none of which have in the long run met all the earlier expectations that the first exploitation aroused.

Something of this spirit of predilection for novelty sometimes pervades the atmosphere of research. In a recent address before the American Institute of Chemists, Prof. Lafayette B. Mendel[1] of Yale University touched on it in relation to prevailing tendencies in the field of chemical investigation. Referring to the progress of the newer physical chemistry, "formulated with new viewpoints, employing novel methods, and armed with all the enthusiasm that belongs to a vigorously growing venture," he expressed concern lest the former prestige and deserved popularity of organic chemistry be eclipsed by the younger physical chemistry, perhaps even to the extent of being in danger of real neglect by the oncoming students. Mendel remarked that some of the biochemical literature gives the impression that the broad field of the detailed composition and function of living structures is being envisaged from a somewhat narrow angle—one in which colloidal phenomena, ionic equilibriums, permeability factors, osmotic and surface forces furnish the chief basis for the outlook. Mendel notes that such biologic entities as cytoplasm and nucleus, chromosomes and vacuoles are little more than words to the biochemist. He believes that a constructive inroad into these unexplored recesses, an endeavor to discover the unrecognized organic compounds out of which the living cell, the morphologic background of protoplasm, the basis of life, is built up calls for the best endeavor of the organic chemist.

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[1] Ferrell, J. A.: Economics of Public Health, J. A. M. A. **89:** 77 (July 9) 1927.

[2] Conference on Public Health, J. A. M. A. **89:** 118 (July 9) 1927.

[3] Mendel, L. B.: Some Tendencies in the Promotion of Chemical Research, Science **65:** 555 (June 10) 1927.

[1] Mendel, L. B.: Some Tendencies in the Promotion of Chemical Research, Science **65:** 559 (June 10) 1927.

A comparable laudation of the progressive possibilities of certain phases of organic chemistry was also recently uttered by Wells[2] of the University of Chicago. In summarizing the accomplishments as well as the problems of the new immunology, his foremost thesis was that this science is primarily a branch of biologic chemistry and that there are problems of great interest and of the highest human importance awaiting solution by the chemist, either alone or in cooperation with the immunologist. After detailing some of the practical contributions, Wells frankly admits that the fundamental features remain to be established on a more specifically scientific basis. Our prospects of any great advance by means of improvement of the methods we now know and use, he writes, seem but slight. We must have a new method, and that is to be furnished by the joint action of the chemist and the immunologist. When we learn just what these mysterious protective agents are, how they act, and how to produce them artificially at will, we shall not have to depend on the dilute solutions of these agents that we can extract from a horse or can cause to develop in a man's own blood, but we can give him as much as he needs of the active agent that has been prepared by synthetic chemistry. That, Wells concludes, seems to be the goal we must work toward; and the organic chemist who is studying the linkage of pyrroles, piperazines and amino-acids is probably quite as much a builder of the future immunology as the man who is investigating the serum reactions of the meningococcus. Emil Fischer and Kossel, he adds, through their study of the composition of the proteins, are perhaps quite as directly the founders of the future immunology as Metchnikoff, Ehrlich and Bordet, who worked more directly with the living processes of infection and resistance. As Mendel has remarked, exclusive "fashions" in research have their limitations.

Current Comment

UNITED STATES LEADS IN PROPRIETARY MEDICINE

The United States is the world's largest producer, consumer and exporter of prepared medicines, according to a report just made available by the Department of Commerce. The value of "patent medicine" and druggists' preparations manufactured in this country in 1925 was nearly $320,000,000, and $20,000,000 was the value of exports. The total import trade of the world in medicinals was $110,000,000, of which two thirds represented prepared medicines and medicinal specialties. British exports were 66 per cent of those of the United States, French exports 60 per cent, while German shipments were approximately 50 per cent of those of the United States. Eighty per cent of the drugs exported from the United States go to fifteen English and Spanish speaking countries. The figures presented by the Department of Commerce help to correct some impressions heretofore prevailing relative to this trade. It has long been thought that Germany dominated the proprietary medicine markets of the world. Evidently the United States has progressed greatly in this field since the World War. Unfortunately, the scientific value of the products has not been demonstrated in most instances to be wholly meritorious. One may well wonder how much of this trade includes drugs without merit and "patent medicines" that are harmful.

BIRDS OF A FEATHER

On September 22 and 23, according to an announcement just issued, the second annual convention of the Koch Cancer Foundation will take place in Chicago, one of the meetings being a joint session with the American Association for Medico-Physical Research. No doubt Chicago merits this visitation as a return for its sins. In 1925, The Journal spoke briefly relative to the American Association for Medico-Physical Research, a society organized in 1911 by the outstanding quack of the century, Albert Abrams. The organization was an outgrowth of the American Association for Spondylotherapy, the term "spondylo" referring to the spine and not to the good old American word "spondulix." In this peculiar organization are assembled some of the conspicuous exploiters of borderline medicine in this benighted land. For example, in 1925 the chairman of the section on radiology was Mr. George S. Foden, a practitioner of electronic medicine, who read a paper on "The Eye as an Index Factor to Personality"; osteopath Francis A. Cave, an honorary vice president of the Medical Liberty League, also devoted himself to electronic practice; William Howard Hay, chairman of the section on advanced medicine, had a diabetic cure and one for hay-fever; A. C. Geyser is a promoter of the "tricho system"; George E. Harter is the founder and director of the Defensive Diet League; E. M. Perdue has a cancer cure. And then there is Koch—William F. Koch, M.D., Detroit, Michigan—inventor of the Koch synthetic antitoxin for the cure of cancer. According to his bulletin, some three hundred physicians will gather to discuss the use of the Koch remedy in cancer. But one meeting is to be a joint meeting with the distinguished members of the American Association for Medico-Physical research. The Koch representatives should add tone to this remarkable assemblage.

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[2] Wells, H. G.: Immunology as a Branch of Chemistry, New York, Columbia University Press, 1927.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Radium Recovered After Passing Through Furnace.—A tube of radium, valued at $4,500, was lost about June 1, at the Coffee Hospital, Sheffield, and after an intensive search was found by means of an electroscope in the city dump. The radium had passed through the furnace at the garbage disposal plant, and had been buried in the refuse about three weeks. The search was conducted by an insurance company which had insured the hospital against the loss of the radium.

ARKANSAS

Personal.—The governor has appointed Drs. William W. Verser, Harrisburg, William W. York, Ashdown, and William A. Montgomery, Atkins, to fill the vacancies on the board of medical examiners of the Arkansas Medical Society.——Dr. Joseph P. Runyan has resigned as superintendent of the Baptist State Hospital, Little Rock.

Testimonial Dinner to Retiring Dean.—About seventy-five friends attended a testimonial dinner given by the faculty of the University of Arkansas, at Little Rock, June 28, in honor of Dr. Morgan Smith, who retired after many years of service as dean of the medical school, June 30. Dr. Frank Vinsonhaler, the new dean, was toastmaster, and among the speakers were Mr. E. J. Bodman of the board of trustees of the university, and Drs. Wells F. Smith, Anderson Watkins, William R. Bathurst and Shelbey B. Hinkle. Dean Smith was presented with a silver water pitcher.

Society News.—Dr. J. M. McLendon has been elected president of the Lincoln County Medical Society for the ensuing year.——The physicians of Batesville gave a banquet at the court house, June 13, to the Independence County Medical Society. The speakers on the scientific program included Drs. John M. Hooper, G. T. Laman, Lorenzo T. Evans and Frank A. Gray.——Dr. J. H. Eugene Rosamond, Memphis, Tenn., addressed the Mississippi County Medical Society, Wilson, recently, on "Diagnosis of Tuberculosis in Children."——The nurses of the Camden Hospital served a banquet to the Ouachita County Medical Society at the hospital, May 5; the report of the hospital's work since its opening in 1925 was made; at the June meeting, the Columbia County Medical Society was the guest of the Ouachita County Medical Society.

CALIFORNIA

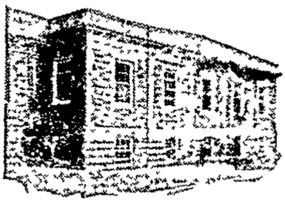
Society News.—Dr. Manuel L. Fernandez was host to the Contra Costa County Medical Society, recently, at his home in Pinole.——Dr. William D. Sansum, Santa Barbara, addressed the Kern County Medical Society, recently, on "Diet and Insulin."——Dr. Edward W. Beach addressed the Sacramento County Medical Society, recently, on "Some Common Kidney Lesions."——Dr. Edward Bancroft Towne, San Francisco, addressed the Stanislaus County Medical Society, recently, on neurosurgery.——Among others, Dr. Henry J. Ullmann addressed the Santa Barbara County Medical Society, June 13, on "Colloidal Lead and Radiation in the Treatment of Cancer," and Dr. Irving Wills on "Ureteral Stone Extraction."——Dr. William J. Kerr has had made 500 reprints of the Hippocratic Oath for presentation to senior students at the University of California Medical School; the translation is from that made of the works of Hippocrates by Dr. Francis Adams, first published in 1849 by the Sydenham Society, London. The reprints are reproduced on handmade paper.

University Establishes Institute of Child Welfare.—The president of the University of California has announced the establishment of an institute of child welfare in the university. The Laura Spelman Rockefeller Memorial, New York, has made liberal appropriation for its maintenance for a period of six years, beginning this month. The California Congress of Parent Teachers' Associations has pledged to defray during the six year period the rental charges of such off-campus housing space as the institute will require. The object, as the name indicates, is to promote the welfare of children, and through them the welfare of the human race. For two years a large committee of professors has considered the establishment of an institute within the university. In the medical school, especially in the departments of psychology, hygiene and biology, the welfare of children has been studied for many years but not on a cooperative and coordinated basis. The regents of the university have appointed Dr. Herbert R. Stolz to be director of the institute. Dr. Stolz graduated from Stanford University School of Medicine in 1914; for about three years, he was Rhodes Scholar at Oxford University and was director of physical education at his alma mater. He served in the army during the World War, was state supervisor of physical education in California and more recently was assistant superintendent of public instruction. Harold E. Jones, Ph.D., of Columbia University, New York, has been appointed director of research in the institute. Dr. Jones received his doctor of philosophy degree from Columbia in psychology. He was a fellow at Woods Hole for a year, director of the undergraduate staff and laboratory at Columbia for four years, psychologist to the Children's Hospital, New York, examiner to the municipal civil service commission, and executive officer of the Child Development Foundation, operating under the support of the Laura Spelman Rockefeller Memorial.

CONNECTICUT

Personal.—Dr. Philip D. Woodbridge, Portland, has gone to the Mayo Clinic, Rochester, Minn., as first assistant in the section on anesthesia.——Dr. Alphonso G. Garcia, Waterbury, has been appointed health officer of Middlebury.——Dr. Maude W. Taylor, Hartford, has been elected president of the Woman's Medical Society of Connecticut for the ensuing year, and Dr. Amelia V. Tuttles, New Britain, secretary-treasurer. The honorary president is Dr. Ellen H. Gladwin, Hartford.

Memorial Roentgen-Ray Building.—The Hartford Hospital recently dedicated a special building for the roentgen-ray laboratory which provides space also for the cystographic and photographic departments, and is known as "The Capewell Memorial X-Ray Building." Funds for the erection of this addition to the hospital were provided by the family of Mr. George J. Capewell, founder of the Capewell Horse Nail Company, who died in 1919. The former roentgen-ray department of the hospital was so constructed that it was easily adapted to the needs of the operating floor on removal of the laboratory to the memorial building. The main floor of the building has 3,875 square feet All portions of the building which are subjected to high voltage currents are insulated with lead, lead glass and barium plaster on the ceilings and walls. It is constructed of Connecticut brown-stone, is fire-proof and harmonizes with the other hospital buildings.



CHICAGO

Personal.—Dr. Harry E. Mock, assistant professor of surgery, Northwestern University Medical School, was awarded the honorary degree of doctor of science at the ninety-third annual commencement of Franklin College, Franklin, Ind.——Dr. Herman L. Kretschmer has been elected a corresponding member of the Hungarian Urological Association.——William H. Taliaferro, Ph.D., professor of parasitology, University of Chicago, has returned from a three months' trip to Central America, spent in working on the serology and immunology of malaria and intestinal worms at the hospital of the Tela Railroad Company in Honduras. Dr. Taliaferro has been invited to the School of Tropical Research, University of Porto Rico, during the winter quarter, 1928, as visiting professor of parasitology.

The Largest Local Medical Society.—In his annual report, the secretary of the Chicago Medical Society notes that the society has a total membership of 4,164, and that it is the largest local medical society in the world. The central society held twenty-nine meetings during the year, which were addressed by sixteen out-of-town speakers and a number of its own members. The council held nine meetings and the board of trustees ten. A nurses' registry was established during the year, so that members can now secure graduate nurses for both twelve and twenty-four hour duty as well as practical nurses; the registry has proved successful beyond expectation. The society has moved to the new Medical and Dental Arts Building, Wabash Avenue and Lake Street, where it has a permanent home and where future meetings and dinners will be held.

New Department of Medicine.—The personnel of the department of medicine at the new medical school and hospital of the University of Chicago on the Midway is practically complete for the year 1927-1928. The members are as follows:

Franklin Chambers McLean, Ph.D., M.D., professor of medicine.
Frank Billings, Sc.D., M.D., professor emeritus of medicine.
Oswald H. Robertson, M.D., professor of medicine.
Joseph Almarin Capps, A.M., M.D., clinical professor of medicine.
Joseph Leggett Miller, M.D., clinical professor of medicine.
Friedrich Hiller, M.D., associate professor of medicine.
Paul C. Hodges, Ph.D., M.D., associate professor of roentgenology.
Samuel William Becker, M.D., assistant professor of dermatology.
Louis Leiter, M.D., Ph.D., assistant professor of medicine.
Charles Philip Miller, Jr., S.M., M.D., assistant professor of medicine.
Walter L. Palmer, Ph.D., M.D., assistant professor of medicine.
Emmett Blackburn Bay, M.D., assistant clinical professor of medicine.
Ruth E. Boynton, M.D., assistant clinical professor of medicine.
L. Jean Bogert, Ph.D., instructor in medicine.
Chester Scott Keefer, M.D., instructor in medicine and resident physician.
Margarete Meta H. Kunde, Ph.D., M.D., instructor in medicine.
Perry Y. Jackson, Ph.D., instructor in medicine.
Robert G. Bloch, M.D., clinical instructor in medicine.
Anne S. Bohning, M.D., assistant in medicine and assistant resident physician.
John Murray Steele, M.D., assistant in medicine and assistant resident physician.
Henry Nelson Harkins, M.S., research assistant in medicine.
Albert L. Tanenbaum, research assistant in medicine.

INDIANA

Dr. Barnhill Retires from Teaching.—After about thirty-eight years' service as a teacher in Indiana University School of Medicine and its predecessor, and for the last four years professor of surgery of the head and neck, Dr. John F. Barnhill, Indianapolis, has announced his retirement from active teaching duty. He will remain with the school in an advisory capacity and continue in the practice of medicine.

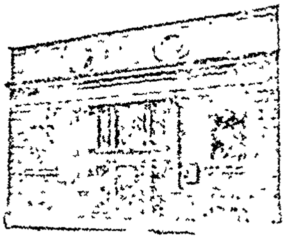
LOUISIANA

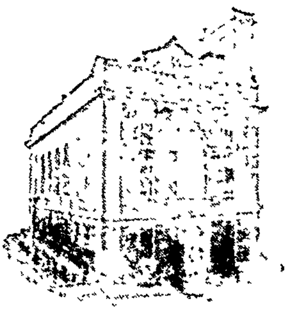
Assistance of Counties in Health Work Requested.—The state of Louisiana has agreed to assist the parishes to put into effect health programs in the inundated parishes, and the Liquidation Board has arranged to use $62,000 for this purpose, which will be supplemented by funds from the U. S. Public Health Service, the International Health Board and the state board of health. The parishes are also requested to assist in the financial arrangements, and a schedule has been drawn up of the amount necessary for these programs for each parish. The program for Louisiana and adjoining states was outlined at a conference held in New Orleans, June 5, attended by representatives of the Red Cross, the U. S. Public Health Service, the International Health Board and health officers from the seven states. It is proposed to establish a health center in each parish with a full-time health officer, a public health nurse, sanitary inspector and an office attendant; and in order to obtain a dollar for each dollar appropriated by the other agencies, every parish must put up its quota. In announcing this plan, the Louisiana State Board of Health recognizes that every parish must have a board of health in accordance with the state law, but that these boards are not adequately financed, their administration is remote from the people and they are not aware of the people's problems. The health center which it is proposed to establish in the parishes will, according to the board, correct this fault. These centers will be open to the individual for actual help or advice, and he may take his problems of hygiene for the school and home to them. The American Red Cross in a statement, July 1, spoke of these plans generally, stating that ninety-two full-time county and parish health units in the seven states affected by the flood have been planned, and that the Red Cross is spending about $500,000 in supplementary service to the state health departments in the conducting of emergency health and sanitation programs in the reserve camps, and for a thirty day clean-up program in the towns and villages. The Red Cross is limited to emergency phases of health and sanitation in the present disaster, and the amount allocated to the Red Cross in this more permanent health program will be taken over by the U. S. Public Health Service. The state board considers this a great opportunity offered to the parishes to safeguard health.

MASSACHUSETTS

Statistical Study of Mental Disease.—The Massachusetts Department of Mental Diseases is organizing a new statistical approach to the study of morbidity in the field of mental disease, and has delegated the work to Dr. Neil A. Dayton, director of the division of mental deficiency. Dr. George M. Kline, commissioner of mental diseases, is of the opinion that an analysis of the mass data which a centralized state system makes available will result in information of equal, if not greater, value than that which has been contributed by studies of individual cases.

Boston Health Units.—The third health unit erected in Boston by the George Robert White Fund was dedicated in June. Presiding at the ceremony was the manager of the fund, George H. Phelan; the dedicatory address was given by Dr. Haven Emerson, professor of public health, Columbia University College of Physicians and Surgeons, New York; other speakers were the mayor of the city, the city health commissioner, Dr. Francis X. Mahoney, the state health commissioner, Dr. George H. Bigelow, Dr. Edward F. Timmins, president, South Boston Medical Society, and Dr. J. W. Bartol, president of the Boston Health League. Although erected through a bequest that provided for the construction of public betterments in the interest of the people, these health units, after being erected, are turned over to the city of Boston to be operated and maintained. They function as local headquarters not only for the various activities of the city health department which operates them, but also for the activities of certain private social agencies. Boston now has a total of five health units, and at least two more are planned. Health centers began to develop in Boston in 1916, when the Blossom Street unit was opened. This unit was supported by the city department of health, and the following agencies in the district joined in the work: the Milk and Baby Hygiene Association, the Instructive District Nursing Association, the Consumptives Hospital Department, the Hebrew Federated Charities and the visiting physician of the Boston Dispensary. Previously, these organizations had been functioning under different roofs. The North End Health Unit, which was the first erected under the George Robert White Fund, now has a decentralized preventorium conducted during the summer months for selected children who have been exposed to tuberculosis and are undernourished. There is a unit in east Boston and another, the last to be erected, at Dorchester and West Fourth streets in south Boston. The George Robert White Fund decided to erect a chain of health units where they appear to be most needed.





MICHIGAN

Safeguarding Rural Water Supplies.—Representatives of the Michigan Department of Health started out, June 1, to examine the water supply along the roadside on a route south of Lansing to the border, then west to White Pigeon, then to Petoskey and then down the east side of the state. A follow-up man went two weeks later over the same route placing the approval signs of the department on the supplies of waters which had been found safe, and making recommendations for improvement of resources which were not up to standard ——In Ionia County, the county health cooperative committee has collected samples of water from every one of the 121 rural school wells in the county for examination by the state laboratory

Society News —Dr Melvin D Roberts addressed the Houghton County Medical Society, Calumet, recently, on "Examination and Care of Aviation Pilots "——Among others, Dr Perry C Robertson, superintendent Ionia State Hospital, addressed the Ionia-Montcalm County Medical Society, June 9, on "Malaria Treatment of Syphilis of the Central Nervous System ——Dr Lloyd E Verity, Battle Creek, addressed the Berrien County Medical Society, recently, on 'Nephritis "——The Kalamazoo Academy of Medicine and the Calhoun County Medical Society played a golf match at Battle Creek June 7, at the Battle Creek Country Club where a chicken dinner was served and a scientific program was furnished by the Kalamazoo physicians, Dr Ward E Collins speaking on "General Management in Diseases of Children', Dr David E Squiers, 'Chest Examination of Children," and Dr Rollin D Thompson, "Recent Phases in Treatment of Tuberculosis in Children"

MISSOURI

License Revoked —The Missouri State Board of Health revoked the license of Dr James Barnett Graham, Jameson, June 22, for a period of one year, it is reported, following a hearing on charges of drunkenness and unprofessional conduct

State Medical Election —At the annual meeting of the Missouri State Medical Association, Sedalia, May 2-5 Dr Frank G Nifong, Columbia, was elected president for 1927 1928 and Dr Frank I Ridge, Kansas City, president elect Dr Edward J Goodwin, St Louis, the secretary, will be the delegate to the American Medical Association, 1927-1929

Work of Woman's Auxiliary.—In the report of the president of the Woman's Auxiliary of the St Louis Medical Society for the last year the retiring president, Mrs Henry McClure Young, notes that the auxiliary has purchased fifty tables and a supply of china, glassware, silver and linen for the new building of the St Louis Medical Society, and has secured two excellent ice boxes as gifts from Drs Charles S Rehfeldt and Meyer Wiener, and that a gift of $5,000 to the building fund was made through the auxiliary by Dr Frank J V Krebs in memory of his wife, who was one of the organizers of the auxiliary The cooperative work with other organizations included a donation of $200 to the state department of physical education to carry on health work in rural schools, and the provision of workers for the booth of the state board of health at the Sesqui-Centennial Exposition, and of about thirty workers to register patients and distribute literature for the society for the prevention and cure of cancer Furthermore, the officials furnished rooms to about 125 delegates to the Missouri Association for Mental Hygiene

Gifts to Washington University Medical School.—It was announced at the annual commencement of Washington University, June 7, that the medical school had received a gift of $500,000 to the endowment fund jointly from the General Education Board, New York and Robert S Brookings, president of the university corporation to reimburse the university for expenditures on the affiliated Barnes and Children's hospitals This gift from the General Education Board, the exact amount of which was not announced, makes the total gifts from the board to the medical school now about $5 000,000 Other gifts to the school, which have been previously announced, include $1,000,000 given by the General Education Board and Edward Mallinckrodt and his son for an institute of radiology, $650,000 as endowment for work in obstetrics and pediatrics in connection with the new St Louis Maternity Hospital, $1,000 000 from the estate of the late Mrs W N McMillan, St Louis for the McMillan Eye, Ear, Nose and Throat Hospital, and $50,000 from the General Education Board for the development of work in surgery of the chest

NEW JERSEY

Society News —The staff of the Hackensack Hospital gave the scientific program before the Bergen County Medical Society, June 14, Dr George W Finke, Hackensack read a paper on 'Meckel's Diverticulitis,' and Dr Spencer T Snedecor, Hackensack, on "Work of the Department of Physical Therapy " Dr David Corn, Ridgefield Park, presented a case of rupture of the uterus

Layman Succeeds Physician as State Health Director.—Mr David C Bowen, Asbury Park has been elected director of the state department of health for four years to succeed Dr Henry B Costill, of Trenton, whose term expired, July 4 Mr Bowen was chief of the local health administration in the state department of health, and has been identified with the health department for many years Dr Costill was appointed state director of health in 1924 to serve the unexpired term of Dr Jacob C Price Dr Costill is a former president of the Medical Society of New Jersey, and a former member of the state board of medical examiners

NEW YORK

Health at Buffalo —Telegraphic reports to the U S Department of Commerce from sixty seven cities with a total population of about 29 million, for the week ending July 9, indicate that the highest mortality rate (23 5) was for Buffalo, and that the mortality rate for the group of cities as a whole was 11 2 The mortality rate for Buffalo for the corresponding week last year was 12 8 and for the group of cities, 11 6

Annual Health Officers' Meeting —The annual conference of health officers and public health nurses of the state of New York was held at Saranac Springs, June 28-30 Among the speakers scheduled were Alfred E Smith, governor, Dr James E Sadlier, president of the state medical society, Dr Louis I Harris, commissioner of health of New York City, Dr Sanger Brown, 2d, assistant commissioner, state department of mental hygiene Edward McKernon, of the Associated Press and Dr William H Park, director, research laboratories, New York City Department of Health There were conferences of district state health officers, of state supervising nurses, and joint conferences of both classes of workers, a meeting of the state sanitary officers' association, and a social meeting

Society News —At the annual meeting of the Cattaraugus County Medical Society, Salamanca, May 17, Dr Joseph P Garen, Olean, was elected president, and Dr Raymond B Morris, Olean, secretary treasurer Dr Myron E Fisher reported a case of undulant fever A committee on public health and public relations was appointed ——The Lake Keuka Medical and Surgical Association held its twenty-eighth annual meeting at Lake Keuka in Central New York State, July 14-15, under the presidency of Dr Abraham H Aaron, Buffalo Besides a scientific program which was not announced at the time of this report, arrangements were made for speed boat races to be held both days to compete for the challenge cup offered by the association, as well as for the cups offered by the local yacht club The association was organized about twenty-seven years ago by the Steuben County Medical Society at its summer meeting, and the idea has spread until twenty-two counties in central and western New York are in the association ——The semiannual meeting of the Schoharie County Medical Society was held, May 17, at Schoharie, Dr Robert E Plunkett of the state department of health spoke on "The Family Physician and Tuberculosis" Dr Raeburn J Wharton, Johnson City, on 'Practical Points for the General Practitioner in Diagnosis and Treatment of Disease in Childhood' , Dr James E Sadlier, president of the state medical society, addressed the meeting ——The Jefferson County Medical Society held an outing, June 9, at the Carlowden Club in Lewis County The afternoon was spent at golf and baseball, following the dinner, Dr Francis E Du Bois, New York, spoke on "The Interpretation of Hematuria"

New York City

Field Training for Reserve Officers —About 150 physicians and dentists, members of the officers' reserve corps, left, July 2, for Carlisle Barracks, Pa , for fifteen days' special training in field work The units called into active duty for this period were the 302d, 303d, 342d, 350th, 361st and 363d medical regiments, the Eleventh Surgical Hospital and the Sixteenth Evacuation Hospital This, the *New York Medical Week* notes, is the first opportunity for training as a single unit that the medical troops have had since their organization as part of the reserve corps

Million Willed to St. Luke's Hospital —Probating of the will of the late Mrs Mary Anna Fitz-Gerald, May 26, showed that $1,000,000 had been willed outright to St Luke's Hospital, and that the remainder of half of her $8,000,000 estate will revert to the hospital on the death of intervening heirs Mrs Fitz-Gerald willed to the hospital the vacant block bounded by Riverside Drive, One Hundred and Nineteenth and One Hundred and Twentieth streets and Claremont Avenue, and the parcel of land where her home stood at One Hundred and Twentieth Street and the Drive which is now used for tennis courts Seventy years ago, the New York *Times* states, this land was a part of the farm owned by her father, Eli White.

Personal.—Dr. Durward R Jones, formerly epidemiologist of the South Dakota Department of Health, has been appointed assistant professor of epidemiology in the De Lamar Institute of Public Health, Columbia University, to succeed Dr Alton S Pope, who is now epidemiologist of the Chicago Health Department, Dr Adelaide Ross Smith, recently physician to the New York State Industrial Board, has been appointed to succeed Dr Frank G Pedley, who will assume charge of the new department of industrial medicine at McGill University Medical School, Montreal, August 1 ——Edmund V Cowdry, Ph D, of the Rockefeller Institute for Medical Research, has returned from Tunis, Africa, where he spent several months in parasitologic studies ——Dr Mark H Williams was retired on a salary, June 30, after thirty-eight years' service as police surgeon ——Dr John O Polak, professor of gynecology and obstetrics, Long Island College Hospital, lectured at the Mayo Foundation, Rochester, Minn, July 5, on "How the Pathology Explains the Symptoms and Signs of Ectopic Pregnancy"——Dr James Herbert Lawson was elected vice commander and Dr Harmon A Vedder, treasurer, of the New York County organization of the American Legion

Kingsbury Predicts as Many Health Centers as Schools.—The secretary of the Milbank Memorial Fund, Mr John A Kingsbury, notes in the annual report of the fund that the country will be dotted with health centers as now with schools if the efforts of the U S Public Health Service, several American foundations, and other national, state and local philanthropic organizations are successful It is said that many billions of dollars are backing efforts to bring modern knowledge of individual and community health to the residents of communities throughout the United States The Milbank Memorial Fund is conducting three health demonstrations in New York, one in Cattaraugus County, one in the city of Syracuse, and one in a congested district of about 2 square miles in New York City At least half of the residents of Cattaraugus County have had a physical examination since the demonstration started in 1923 through one channel or another, 8 per cent of the population have been examined for tuberculosis, and 2,000 of these persons have been reexamined During 1925 and 1926, the fund appropriated $325,000 each year for the three New York health demonstrations, which was equivalent to more than 60 per cent of its total appropriations for the year, the other 40 per cent of the appropriations also went for the most part to undertakings directed in one way or another toward the promotion of health and toward the further postponement of premature death The Milbank demonstrations are now in their fifth year

NORTH CAROLINA

Personal.—Dr Franklin Webb Griffith, Asheville, has been appointed assistant divisional surgeon for the Southern Railway system ——Dr Vonnie M Hicks and William B Dewar, Raleigh, have been commissioned examiners in North Carolina for the aeronautics branch of the U S Department of Commerce ——Dr Geralde Varela, Mexico City, Mexico, a representative of the Mexico Department of Health, has completed his laboratory studies with the North Carolina State Health Department and returned to his home Dr Varela was especially interested in the production of tetanus antitoxin, and came to Raleigh after completing a course of postgraduate study at Johns Hopkins Hospital School of Public Health on the recommendation of the International Health Board of the Rockefeller Foundation L P Ricks, of the state laboratory of Oklahoma, also has completed a month of special duty in the North Carolina Laboratory and returned to his home ——Dr Charles F Strosnider has been elected president of the chamber of commerce of Goldsboro.

OHIO

Personal.—Dr Charles W Snook, Clarksville, has been elected president of the Clinton County Board of Health ——Dr. Frank B Cross was elected president for the ensuing year of the Alumni Association of the University of Cincinnati College of Medicine, and Dr Donald J. Lyle, secretary ——Dr. Emmet L Hooper, superintendent, Institution for Feebleminded, Orient, has been appointed superintendent of the Dayton State Hospital, Dayton, to succeed Dr. Harry H McClellan, resigned ——Dr. Edgar R Hiatt, Shawnee, has been appointed joint city and county health officer, effective, September 1.

Society News.—Dr. Carey Culbertson, associate clinical professor of obstetrics and gynecology, Rush Medical College, Chicago, gave the third annual David Todd Gilliam Memorial Lecture before the Columbus Academy of Medicine; the subject was "The Gynecologist as a Teacher"——Dr Earl H. Morris, Dayton, addressed the Darke County Medical Society, Greenville, recently, on the "Estimate of Cardiac Capacity by the General Practitioner," and Dr. John B Ballinger, Versailles, on "Cause, Prevention and Treatment of Apoplexy."——Dr. H. Jerry Lavender, Cincinnati, addressed the Academy of Medicine of Lima and Allen County, recently, on "Syphilitic Manifestations of the Skin and Mucous Membranes."

Expedition to Mexico to Study Typhoid.—From the University of Cincinnati College of Medicine, Cincinnati, an expedition has gone to Mexico to study the use, under clinical conditions, of an active vaccine treatment for typhoid, which Dr. William B. Wherry, professor of bacteriology and preventive medicine at the university, has given a preliminary trial on several cases of typhoid in Cincinnati. In addition to Dr Wherry, there is in the party his wife, who is also a physician, Thomas J. Le Blanc, Dr.P.H, associate professor of preventive medicine; Dr. Lee Foshay, assistant professor of internal medicine, and Robert Thomas, a junior medical student The party sailed from New York, June 30, and will be in Mexico in about three months. Arrangements have been made assuring the cooperation of the Mexican health officials A fund contributed by Mr and Mrs. Charles P Taft Mrs William Cooper Procter, Mr. and Mrs. William T Semple, E W. Edwards, Mrs. Joseph S. Neave and Mrs Mary Hannah made this work possible.

Chiropractors Petition for Separate Board of Examiners.—A supplementary petition, said to contain 83,000 signatures, was filed with the secretary of state, Columbus, June 6, by a group of chiropractors who, the state medical journal says, are seeking to secure the enactment by a vote of the people of a proposal to create a separate board of chiropractic examiners The original petition was filed last December, and was defeated by the house of representatives by a vote of 75 to 31. The state constitution provides that a proposal may be initiated on a petition of 3 per cent of the number of electors voting at the last general election, and if rejected by the general assembly, may be referred to the voters by the filing of a supplementary petition containing an additional 3 per cent of the total number of voters. Persons signing the original petition cannot sign the supplementary petition The secretary of state will now return the petitions to the respective counties in which signatures were secured for a check of the names by the election board; if found lawful, the proposal will then be submitted to the voters at the November election, when a majority of the votes on the question only—not a majority of the total vote cast—will be required to enact the proposition into law.

PENNSYLVANIA

Gift for Eye Hospital.—Washington Hospital, Washington, was bequeathed $200,000 in the will of the late Miss Margaretta Parkinson for the erection, maintenance and equipment of an annex for the treatment of diseases of the eye The donor had been blind for many years. The annex to the hospital will be designated in memory of her father and mother, "The Office of Dr. Joseph Parkinson"

Conference on Industrial Nursing.—About 200 medical directors, industrial nurses, employers and state officials attended the conference on industrial nursing held at Harrisburg, June 14, under the auspices of the state department of labor and industry. The conference was called to recognize employers who have developed industrial nursing, and that the duties of the nurses, employers and the state departments might be better understood Among the speakers were Dr Loyal A Shoudy, chief surgeon, Bethlehem Steel Company, Dr Lewis R Thompson, chief, division of industrial hygiene, U. S. Public Health Service; Dr. Wade Wright, assistant medical director, Metropolitan Life Insurance Company, New York, and Dr Theodore B Appel, state commissioner of health The department of labor and industry will publish the needs of the conference in a special bulletin

Hospital News.—Dr Raymond D. Tice has been appointed to the surgical staff of the Allentown Hospital ——The trustees of the Altoona and Mercy hospitals, Altoona, arranged to conduct a joint campaign for $250,000 to meet the needs for the next two years ——The citizens of Kane are conducting a campaign for a new community-owned hospital; seven citizens pledged $95,000 ——The Lemos B Warne Hospital opened a new wing, June 14. Dr. Hobart A. Hare, Philadelphia, was the principal speaker; there was a largely attended reception to the Schuylkill County Medical Society on this occasion. The Warne Hospital has been offered to the city of Pottsville together with an endowment of $500,000. It is doubtful whether the city can legally accept the gift, as it cannot levy a tax to support a hospital or acquire a hospital unless it is self-supporting.

Governor Appoints Healing Art Commission.—In accordance with a joint resolution of the legislature of Pennsylvania to create a commission to study the laws relating to the healing art and defining its powers and duties, the governor has appointed the commission. There are twelve members; four are laymen, and one each representing the so-called allopathic, homeopathic, eclectic, chiropractic, osteopathic and naturopathic schools. William C. Freeman, Cornwall, and James J. Heffernan, Philadelphia, are ex officio members of the commission, and the former has been elected chairman. The secretary-treasurer is Dr. Francis D. Patterson. The doctors of medicine who are members of the commission are Ross V. Patterson, Philadelphia; Robert S. Marshall, Pittsburgh, and Edward F. Shaulis, Indiana, Pa. The commission is engaged now in studying the medical practice acts in the various states of this country and of foreign countries, and in the fall will hold public hearings. The object is to follow this study with the framing of a bill or bills to be presented to the general assembly of 1929 not later than February 1, which will provide for the proper regulation, control and administration of the various medical schools and of persons engaging or intending to engage in the practice of healing arts.

Philadelphia

Personal.—Dr. Valentine R. Manning was guest of honor at a testimonial dinner in the Elks Club, June 15.——Dr. John Howard Frick was elected president of the Medical Alumni Association of Trenton University at the annual banquet, June 15.——George D. Rosengarten, Ph.D., president, American Chemical Society, received the honorary degree of doctor of science at the recent commencement of the University of Pennsylvania.

Appointments at Graduate School.—The following appointments on the faculty of the Graduate School of Medicine of the University of Pennsylvania have been announced:

Dr. Bernard Mann, assistant professor of gynecology.
Dr. William T. Johnson, associate professor of therapeutics.
Walter G. Karr, Ph.D., associate professor of biochemistry.
Dr. Thomas M. McMillan, associate professor of cardiology.
Dr. William D. Stroud, associate professor of cardiology.
Dr. Nathaniel W. Winkelman, associate professor of neuropathology.
Dr. Basil R. Beltram, assistant professor of surgery.
Dr. William N. Bradley, assistant professor of pediatrics.
Dr. Henry N. Diamond, assistant professor of otology.
Dr. Jacob K. Jaffe, assistant professor of gynecology.
Dr. Isidor J. Ravdin, assistant professor of surgical research.
Dr. John F. Sinclair, assistant professor of pediatrics.
Dr. Harry B. Wilmer, Jr., assistant professor of clinical allergy.

TENNESSEE

Personal.—Dr. Horace M. Roberson, Pikeville, has been appointed health officer for Bradley County.——Dr. Osgar G. Nelson has been appointed pediatrician on the staff of the child health demonstration at Murfreesboro to succeed Dr. Joseph I. Waring, Jr., who has been with the demonstration about three years and will now go to Nashville.

Typhoid in Nashville.—The health officer of Nashville, Dr. John Overton, is conducting a vigorous campaign to increase the number of persons immunized against typhoid in that city, and up to July 7 about 4,500 persons had been inoculated by the city health department alone. Typhoid appeared to be more prevalent in that community during the this year, fifty-one cases having been reported up to the present time. Twenty-nine new cases were reported in Davidson County between June 1 and July 7.

VIRGINIA

Society News.—Physicians from the counties of Essex, Gloucester, King and Queen, King William, Mathews, Middlesex and York organized the Mid-Tidewater County Medican Society at Saluda, June 27, the *Virginia Medical Monthly* says, to discuss problems that confront the general practitioner in that section; Dr. James W. Smith, Hayes Store, was elected president. The next meeting will be at Gloucester C. H., July 29.

University News.—The Medical College of Virginia, Richmond, will receive from the Martha Allen Wise estate as a residuary legatee about $130,000 for the care and treatment of patients at the St. Philip Hospital, which is owned and operated by the college for the colored people and for teaching purposes.——The president of the Medical College of Virginia announces the following new appointments to the faculty: Dr. William B. Porter, professor of medicine; Sidney S. Negus, Ph.D., professor of chemistry; J. C. Forbes, Ph.D., assistant professor of chemistry; Lewis C. Pusch, associate in pathology, and Jacob G. Jantz, associate in anatomy.

WASHINGTON

Basic Science Committee Appointed.—Governor Hartley appointed the following persons as members of the basic science examining committee, June 27: Dr. John L. Worcester, University of Washington; Dr. David C. Hall, University of Washington; Prof. Wilbur Bohm, State College of Washington; Prof. John Fred Bohler, B.S., State College of Washington, and Prof. Clare C. Todd, Ph.D., State College of Washington.

WISCONSIN

License Revoked.—The state board of medical examiners reports that the license of Dr. Charles W. Blanchard, Janesville, was revoked, April 7, on a charge of manslaughter as a result of an illegal operation. Dr. Blanchard is reported to have confessed to illegally operating on a 19 year old girl, who died, and to have been sentenced to the state penitentiary. He is also reported to have been charged with a similar offense in Rockford, Ill., about three years ago.

Personal.—Edward Kremers, Ph.M., has severed his connection with the University of Wisconsin to organize and direct research in colloid chemistry for E. I. de Pont de Nemours and Company, Wilmington, Del.——Dr. Edwin B. Gute has been appointed health officer of Whitefish Bay.——Dr. Henry C. Werner was elected president of the Fon du Lac Community Chest, June 8.——Dr. William T. Lindsay has been elected president of the staff of the Madison General Hospital.

Society News.—Dr. Emile G. Nadeau has been elected president of the Green Bay Academy of Medicine for the ensuing year; Dr. William Allen Pusey, Chicago, formerly President of the American Medical Association, addressed the academy, June 24, on recent developments in the treatment of syphilis.——Among others, Dr. William H. Hengstler, St. Paul, addressed the Barron-Polk-Washburn-Sawyer-Burnett County Medical Society at Rice Lake, June 7, on "The Effect of High Blood Pressure and Arteriosclerosis on the Nervous System," and Dr. Louis E. Daugherty, St. Paul, on "Fractures of the Lower Radius."——The members of the Dane County Medical Society held their annual field day and picnic with their families on the state hospital grounds at Mendota, June 22.——Dr. Charles A. Parker, associate clinical professor of orthopedic surgery, Rush Medical College, Chicago, and Dr. Lemuel D. Smith of Marquette University School of Medicine, Milwaukee, addressed the Kenosha County Medical Society, June 17, and held a clinic at the courthouse.——Drs. Raymond C. Blankenship and John E. Gonce, Jr., Madison, held a clinic on gastro-intestinal disorders and infant feeding at St. Mary's Hospital, Wausau, under the auspices of the Marathon County Medical Society.——Dr. Mark T. Goldstine, Chicago, addressed the Rock County Medical Society, recently, at Janesville, on "Abnormalities of Endocrine Function with Special Reference to the Ovary," and Dr. Edward L. Miloslavich, Milwaukee, on "Importance of Postmortem Examinations to the General Practitioner."

GENERAL

Inter-State Post Graduate Assembly.—The program of the Inter-State Post Graduate Assembly of North America, which will be held at Kansas City, Mo., October 17-20, notes that clinics will be held at the local hospitals, October 14-15, preceding the assembly. As usual, a large number of prominent physicians and scientists will be on the program. There will be symposiums, diagnostic clinics in medicine, surgery and the specialties, and exhibits.

American Electrotherapeutic Association.—This association will hold its thirty-seventh annual meeting, September 12-16, at the Hotel Pennsylvania, New York; the program will cover the entire field of physical therapy; two days will be devoted to clinical sessions at the physical therapy departments of New York hospitals. The technical exhibit will demonstrate all types of apparatus and accessories. All legally licensed physicians are invited; programs and surgery information can be obtained from the secretary, Dr. Richard Kovacs, 223 East Sixty-Eighth Street, New York.

Society News.—At the sixth annual convention of the Pacific Northwest Association, Boise, Idaho, June 29, Dr. Emerson F. Root, Salt Lake City, assumed the duties of president; Dr. William B. Holden, Portland, Ore., was made president-elect; Drs. John W. Gue, Caldwell, Idaho, and Robert E. McKechnie, Vancouver, B. C., vice presidents, and Dr. Frederick Epplen, Spokane, Wash., secretary-treasurer. ——At the meeting of the Western Branch of the American Urological Association, Seattle, July 6, Dr. Anders Peterson, Los Angeles, was elected president; Dr. Wirt B. Dakin, Los Angeles, vice president; Dr. William E. Stevens, San Francisco, secretary, and Dr. Alexander H. Peacock, Seattle, treasurer.

National Board of Medical Examiners.—At the annual meeting of the National Board of Medical Examiners, Washington, D. C., May 15, Dr. Walter L. Bierring, Des Moines, was elected president for the ensuing year, and Dr. John S. Rodman, Philadelphia, secretary. Directors elected are Surg. Gen. Merritte W. Ireland, Hugh S. Cumming, Edward R. Stitt and John Whitridge Williams. The board considered at this meeting the subject of conducting an examination in the specialties, but decided that the situation should be studied further by consultations with representatives of the National Specialty Organizations. The board voted further, after considering a communication from the Committee on Education of the Section on Diseases of Children of the American Medical Association, that questions on pediatrics would be included in the future in written examinations in medicine of part II, and that an examination in pediatrics would be included in the practical and clinical examination of part III. There will be examinations, September 14-16, in parts I and II in all class A medical schools in the country where there are sufficient candidates. Applications for this examination should be made not later than August 10.

Citizens' Committee Presents Home to Yellow Fever Volunteer.—Twenty-seven years ago, Private John R. Kissinger, of the Hospital Corps, U. S. Army, volunteered to be bitten by mosquitoes which had fed on fatal cases of yellow fever at Camp Lazear, Cuba, while an army commission was investigating the method of transmission of yellow fever. Mr. Kissinger has been virtually incapacitated for sustained work for the last twenty years, and a citizens' committee was recently formed to sponsor the collection of a fund to secure a home at Huntington, Ind., for him and his family. They moved into the new home, June 29, and the manifestation of appreciation of Mr. Kissinger's services has done much to strengthen him. The citizens' committee was formed on the initiative of Mr. James E. Peabody, biology department, Morris High School, New York, and the members were Harry Emerson Fosdick, Union Theological Seminary; John H. Finley, New York *Times;* Dr. William H. Welch, Johns Hopkins University School of Medicine, Baltimore; Henry Bruere, Bowery Savings Bank, New York; Malcolm H. Ormsbee, New York, and Benjamin C. Gruenberg, of the American Association for Medical Progress. The committee received help from the local chapter of the Red Cross at Huntington, and from writers, journalists, publicists and others.

Major Walter Reed, in his report of those epochal experiments read before the Pan American Medical Congress, Havana, February 4-7, 1901, said:

> Private John R. Kissinger, Hospital Corps, United States Army, aged 23, a nonimmune, occupant of tent number 2, with his full consent, was bitten at 10:30 a. m., Nov. 20, 1900, by a mosquito (*C. fasciatus*) that had bitten a severe case of yellow fever on the fifth day, eleven days previously; another severe case, on the third day, six days before; and a third severe one on the third day, three days before. As Kissinger had not absented himself from Columbia Barracks for a period of more than thirty days, it was considered safe to inoculate him without waiting for his period of incubation to pass.
>
> Nov. 23, 1900, Kissinger was again bitten by the same mosquito. The result of both inoculations was negative. The mosquito, therefore, was incapable of conveying any infection on the eleventh or fourteenth day after it had bitten a severe case of yellow fever on the third day of the disease. This insect had been kept at ordinary room temperature and died Nov. 26, 1900.
>
> Dec. 5, 1900, at 2 p. m., twelve days after the last inoculation, Kissinger was again bitten by five mosquitoes (*C. fasciatus*), two of which had bitten fatal cases of yellow fever; one the second day, fifteen days before; one a severe case on the second day, nineteen days previously, and two a mild case on the third day, twenty-one days before.
>
> The record of temperature and pulse, taken every three hours following this inoculation, showed that the subject remained in his usual state of health during the following two days, except that on December 8, on the third day, Kissinger had slight vertigo on rising, which soon passed away. At 4:30 p. m.—commencement of fourth day—he complained of frontal headache; otherwise he felt well and partook of supper with appetite; at 9 p. m., temperature was 98.4 F., pulse 90; at 11:30 p. m., he awoke with a chill, his temperature was 100 F., pulse 90; he complained of severe fontal headache and backache; his eyes were injected and his face suffused. December 9 at 3 a. m., his temperature was 102 F., pulse 102; he had violent headache and backache, with nausea and vomiting. He was then removed to yellow fever wards. His subsequent history was that of a case of yellow fever at moderate severity. Albumin appeared in the urine on the fourth day, increased to one fifth by volume on the sixth day, and disappeared on December 22. Granular casts were present in considerable numbers from the fourth to the eighth day. The conjunctivae were jaundiced on the third day. The diagnosis of yellow fever in this case was made by Drs. Juan Guitéras, Carlos Finlay, W. C. Gorgas and A. Díaz Albertini, the board of yellow fever experts of the city of Habana, who saw the patient on several occasions during his illness. The period of incubation in this case was three days, nine and one-half hours.

Dr. Howard Kelly said in his book entitled "Walter Reed and Yellow Fever":

> The subject of the first experiment was a young private from Ohio, named John R. Kissinger, who volunteered for the service; to use his own words, "solely in the interest of humanity and the cause of science." When it became known among the troops that subjects were needed for experimental purposes, Kissinger, in company with another young private named John J. Moran, also from Ohio, volunteered their services. Dr. Reed talked the matter over with them, explaining fully the danger and suffering involved in the experiment should it be successful, and then, seeing they were determined, he stated that a definite money compensation would be made them. Both young men declined to accept it, making it, indeed, their sole stipulation that they should receive no pecuniary reward, whereupon Major Reed touched his cap, saying respectfully, "Gentlemen, I salute you." Reed's own words in his published account of the experiment on Kissinger are: "In my opinion, this exhibition of moral courage has never been surpassed in the annals of the Army of the United States."

The government formerly provided a pension of $12 a month for Private Kissinger and later increased it to $100. A bill was introduced in the last congress which would have replaced the present annuities of Mr. Kissinger and other survivors of the yellow fever experiments with a monthly allowance of $250. Congressmen from various parts of the country have indicated they will support a similar measure if introduced during the next session. Private Kissinger was a native of Ohio.

FOREIGN

Far Eastern Association of Tropical Medicine.—The Seventh Congress of the Far Eastern Association of Tropical Medicine will be held at Calcutta, Dec. 5-22, at the invitation of the government of India, and under the presidency of the director general of the Indian Medical Service, Major General T. H. Simons. This association meets bi-annually, at which time the advances in medical and sanitary science and problems connected with tropical medicine, surgery, dentistry and veterinary science are discussed. The viceroy has consented to be the patron of the congress, in accordance with the custom of the heads of the governments in the last three congresses, who have thus honored the association. Government funds have been subscribed to meet the expenses of the meeting, and official delegates from other countries have been regarded as guests of the governments concerned. The sixth congress was held at Tokyo, the fifth at Singapore, the fourth at Java and the first at Manila in 1910. In addition to official delegates representing the respective governments, membership is open to medical, dental and veterinary practitioners, and scientists working in spheres allied to medicine, and they may contribute scientific papers. Those who wish to become members should forward their subscription (£2 for full members and 5 rupees for associate members) to the organizing secretary, Lieut. Col. J. Cunningham, Pasteur Institute of India, Kausli, Punjab, British India. The scientific papers presented will be grouped in sections, the number depending on the number and scope of papers submitted. The official languages of the congress will be English, French and German, and papers will be accepted if written in any of these languages. The subjects of papers to be presented should be forwarded to the secretary not later than July 31 with a typewritten abstract not exceeding 1,000 words. There will be scientific exhibits illustrating tropical disease. These congresses have grown in importance until they have become one of the most representative and authoritative meetings which pertain to diseases of warm climates.

CORRECTION

"Further Experimental Studies in Cholecystography: Pathologic Observations."—In the article with this title, by Drs. Julius Friedenwald, Maurice Feldman and Francis X. Kearney (The Journal, July 16, p. 195), the photomicrographs appear in the wrong order. Figure 3 should appear first, figure 4 second, figure 1 third, and figure 2 fourth, the explanatory legends remaining in the order in which they originally appeared.

Government Services

Master of Sword at West Point Dies

Many physicians in the United States and other countries knew Lieut-Col Herman J Koehler, master of the sword at the U S Army Military Academy, West Point for thirty-nine years, who died in New York, July 1 following an operation aged 68 Lieut-Col Koehler, as director of physical training at West Point, was largely responsible for the excellent physical training of graduates of that school, his influence in this regard has been evident in every organization of the army During the World War, Lieut-Col Koehler was director of physical training for the entire army, he personally supervised the training of many thousands of officers in training camps and in a few divisions and regiments Born in Milwaukee, he went to West Point in 1885 as the ninth man to hold the position of master of the sword and the first to combine with it the duties of director of physical education He organized the system of training now in use at West Point, and although retired four years ago on account of the age limit, during the last year he was actively engaged in athletics

Army Personals

The resignation of Capt Otis W Little has been accepted ——Capts Benjamin W Lewis and Joseph E Campbell have been ordered to Fort Banks and Fort Sam Houston, respectively ——Major Emil H Burgherr has been relieved from duty in the Panama Canal Zone and assigned to duty at Fort Williams, Maine, on his arrival in the United States he will report to the commanding officer Walter Reed General Hospital, for observation and treatment Major William W Southard has been relieved from duty at the Station Hospital, Fort Sam Houston, Texas, and detailed for duty with the Three Hundred and Fifteenth Medical Regiment, San Antonio, Texas, he is placed on the detached officers list Lieut William F De Witt is relieved from duty at William Beaumont General Hospital, El Paso, Texas, and will sail about September 8 for the Canal Zone for duty —— The following changes will soon be made among the officers on duty in the Surgeon General s Office Washington, D C Major Glenn I Jones, in charge of the reserve section of the personnel division, will be relieved by Major James E Baylis who has been at the command and general staff school, Fort Leavenworth, Kansas, Major Edgar C Jones, who has been on duty at the New York general intermediate depot, has been assigned to the finance and supply division, replacing Major Thomas J Flynn, who will take the next course at the Army War College, Capt Ebner H Inmon, who has been on duty as assistant to Major Jones, goes to the Army Medical School, August 23 He will be relieved by Major Charles Le Baron, Jr, who has been on duty in the Surgeon General's Office, Capt Thomas M England, medical administrative corps, who has been on duty at Fort Mason, Calif, has been assigned to the procurement section of the finance and supply division ——Capt Harry Wall, who has been relieved from duty in the Panama Canal Department, sailed about June 13 for New York where he will be assigned to the U S Army General Dispensary ——Col Clement C Whitcomb has been granted a month's leave of absence, effective, July 22 with permission to leave the continental limits of the United States ——Major Oral B Bohbaugh is relieved from duty in the Walter Reed General Hospital, Washington, D C, effective, August 1, and assigned to duty at the station hospital, Fort Sam Houston, Texas, on completion of temporary duty at Rochester Minn ——Major Walter P Davenport was relieved from duty at the General Dispensary, New York, effective, October 1, and detailed as instructor, New York National Guard, with station at New York

Examination for Medical Administrative Corps

The war department will conduct an examination of applicants, October 17-22, for appointment as second lieutenants in the medical administrative corps of the army Applicants must have had at least two years of service as enlisted men in the medical corps Applications should be addressed to the adjutant general of the army, Washington, D C

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 2, 1927

Report of the Spahlinger Treatment

A medical committee on the Spahlinger treatment appointed by the Welsh National Memorial Association, has now presented the following report While it is evident that Spahlinger has created a modern laboratory and has shown much ability in devising apparatus for special branches of bacteriology, the secrecy maintained as to fundamental details of technic renders it almost impossible to judge of the value of his work He claims to have made achievements far in advance of modern knowledge but has produced no adequate evidence in substantiation Whether from technical or financial reasons, all attempts to obtain supplies of the Spahlinger preparations for systematic tests by competent authorities have failed The published records and statistics of the cases treated by the Spahlinger remedies are not nearly complete or precise enough to allow of scientific evaluation of the results Based on such evidence and records as are available these results are inconclusive In those cases in which the results are good, these can easily be paralleled by other methods The report made by certain members of the medical staff of the association after its visit to Geneva, on cases examined and investigated by them, showed that the results on the whole, were disappointing especially in view of the claims made The remedies obviously do not offer a 'certain' cure for tuberculosis, and conclusive evidence has not been forthcoming that they have materially altered the course of the disease The committee cannot recommend the application of public or other funds toward the Spahlinger Institute It deprecates the publicity campaign on behalf of the Spahlinger movement as unjustified by the evidence so far adduced and as raising false hopes in sufferers from tuberculosis

Solution of the Difficulty Due to the Establishment of a Separate Medical Register by the Irish Free State

In previous letters the alarm produced in the Irish medical profession by the project of the Free State government to establish a separate medical register was described Here as in some other directions Irish nationalism was found to have undesired consequences It is calculated that only about a third of the physicians who qualify from the Irish medical schools remain in the country The remainder emigrate, mostly to England In the past there was a common medical register for Great Britain and Ireland and therefore no obstacle to practicing in England But the autonomy desired by the Irish government would have deprived the general medical council which sits in London, of its powers in Ireland particularly those over medical education and examinations Registration in England with right to practice there was imperiled and the Irish medical schools were threatened with such a loss of students who would go to English schools in England or northern Ireland (which still maintains the common register), that it was declared that ruin was staring them in the face The Free State government had reluctantly to give way

A solution has now been found which satisfies the aspirations of all but the most fanatical nationalists and at the same time safeguards the rights of Irish physicians to practice in Great Britain The medical acts hitherto in force in Great Britain and Ireland will continue to apply to the Free State, as concerns the functions, constitutions, powers, authorities and jurisdiction of the general medical council The direct representative for Ireland will continue to be elected by the physicians resident in any part of Ireland. Physicians registered in the medical register shall be entitled to be registered and to practice in the Free State. A Free State medical council has been established to maintain a local medical register, distinct from the general register, and to exercise in regard to it a jurisdiction distinct from that of the general council. But the jurisdiction of the general council in southern Ireland will not be displaced or diminished for any purpose of admission to or removal from the general register, or of maintaining the standard of professional education and examination in reference to registrable qualifications granted in Ireland.

The Ingratitude of the Victims of Automobile Accidents

A country physician has written to the *Daily Express* as follows: "Often while I drive to or from a case I happen to come to the scene of a road accident in which frequently some one is more or less injured. Naturally, being a physician, usually known to some one in the attending group, frequently a policeman, I am asked to give assistance. Over and over again I have treated and bandaged a victim, carried him off in my car, or had him conveyed to the nearest hospital. I have attended at least eight such cases in the past three months. I make my living from my work and am not a professional philanthropist. Therefore my services should be paid for. Yet not one of the eight whom I have attended has responded to my request for the payment of a fee for services rendered; nor, to my knowledge, has any hospital to which I have sent them received a penny. Yet I am sure the majority of these persons have received compensation from insurance companies for injuries received. A month ago I attended a man by the roadside and spent an hour with him and sent him off carrying my best bandages. He now writes to me: 'I did not call you. It was a policeman. Get your fee from the police.'" When this letter was placed before the great motoring organization—the Royal Automobile Club—an official stated that they had a few cases of complaint in relation to nonpayment to medical men brought to their notice but he thought that there could not be any general disregard by motorists of their obligations.

Tetanus from Catgut

An inquest on the body of a woman, aged 26, who died of lockjaw after an internal operation in Charing Cross Hospital, was held. Dr. Sinclair, the anesthetist, said that he gave the woman stovaine for the operation, which was successful. The syringe was properly sterilized and the operation lasted about twenty minutes. There were no bad effects, and the patient seemed quite jolly. He could not understand why she should have died from tetanus. He had given stovaine in thousands of cases and had never had a fatality. Dr. Shepherd of the Charing Cross Hospital said that all the usual steps were taken to guard against sepsis. The instruments had not been used before in a tetanus case. This was the first case that afternoon. Catgut was used for sewing up the internal sac, and thread was used externally. The catgut was sterilized by boiling in xylene for half an hour. He promised to warn the three firms who supplied catgut to the hospital of this case. Dr. Baly of Lambeth Hospital, where the woman died, said that he found a bead of pus in the neighborhood of the sac where the operation was performed, and he was of opinion that death was probably due to tetanus following the operation. His only explanation was that it was conveyed by the catgut, which was very difficult to sterilize inside. The coroner said that there was no doubt that the woman died of tetanus, and the presumption became irresistible that the germ entered at the site and time of the operation. In the great London hospitals, such as Charing Cross, operations were carried out with proper treatment, and everything was done to avoid the entry of a germ. And yet a germ got into the wound in this case. He had no doubt it got there by means of the catgut. There might have been some germ inside the recesses of the catgut, which had been subjected to proper sterilization. He recorded a verdict of "death by misadventure."

Statistics of Centenarians

Mr. Chamberlain, minister of health, in a parliamentary answer gave the following tabular information showing the deaths that occurred in the recent years in England and Wales of persons who had attained the age of 100 and over:

Year	Males	Females
1922	18	59
1923	22	74
1924	22	64
1925	23	69
1926	27	61

The figures for 1926 are provisional.

Outbreak of Diarrhea Due to Contamination of Water Supply

An outbreak of diarrhea in the east end of London appears to have been traced after much investigation to contamination of the water supply. The total number of cases was over a hundred; most occurred in women and children. The usual duration of illness was twenty-four hours. The temperature ranged between 100 and 104 F. The diarrhea was constant and severe. Labial herpes frequently ensued. Patients were left collapsed and weak, and three died. Pathologic examination of the fatal cases did not show striking features. The small intestine was normal, the colon possibly a little congested. The bacteria isolated were of the colon type. The feces of the living had various aspects, some resembling mild dysentery. In two cases Morgan's bacillus was found. The blood serum, tested for agglutination with the salmonella and Flexner groups and the Sonne type, was completely negative. Ice cream was blamed, but, on investigation, exonerated. No other food could be proved culpable. Gastric influenza and irritant poisoning of chemical origin were excluded. The incidence was confined to a small triangular area, where scarcely a house escaped. The water supply then came under suspicion. Samples judged by the routine bacterial tests were below the optimal London standard, but not to an extent which under normal conditions would have caused concern. A number of strains which attracted notice were studied but were pronounced blameless. Several samples, when chemically tested, showed a relatively high chlorine figure. Assuming that the contagion, though present at first, had disappeared before the samples were taken, or else that it was present in the sampled water, but eluded discovery, attention was turned to the connections of the water main serving the stricken area. This pipe was found to be linked up by by-passes with the raw water supply of a gas works derived from the river Lea, and the view was expressed by an engineering inspector of the ministry that under certain conditions of pumping and pressure it would have been possible for reflux raw water from the gas works to get through the by-passes into the pure supply.

Pneumonoconiosis Caused by Asbestos Dust

At a conference of the Royal Microscopical Society, held at Liverpool, a case of pneumonoconiosis due to asbestos dust was reported by Dr. W. E. Cooke and Mr. C. F. Hill. It appears to be only the second reported in this country. The particles found in the lungs were large, some measuring as much as 360 microns. They represented the brittle iron-containing part of the asbestos fibers. The dust contained 18 per cent of iron as ferrous oxide, the raw material 2.1 per cent, and the finished article 0.1 per cent. The microscopic appearances of the dust were identical with those of the particles found in the lungs.

PARIS

(From Our Regular Correspondent)

June 22, 1927.

The Removal of Household Garbage in Paris

The question of household garbage, so important for the health of urban centers, is occupying at present the attention of the municipal council of Paris, where the total garbage accumulations of a single day are immense Since the administration of the prefect Poubelle, some thirty years ago, garbage has been deposited every evening in front of every house, in zinc boxes, which, in memory of the prefect, have been dubbed by the people, somewhat derisively, "*poubelles*" Numerous complaints on account of the public display of garbage, during from eight to ten hours out of the twenty-four, along the edges of the sidewalks have been made, from time to time, to the council on public health, but, until recently, have remained ineffective for the reason that the council did not wish to interfere with the business of the ambulant ragpickers, who were in the habit of rummaging, during the night, through the garbage boxes to discover whatever of commercial value they contained The only progress realized of late years is the decision reached a few days ago that, with the advent of Jan 1, 1929, all garbage boxes must be provided with covers It has taken thirty years of agitation to get this result, which, for that matter, may prove illusory, for there is little reason to hope that the ragpicker, after raising the cover of a garbage box, will take the trouble to close it down It has been decided further that garbage boxes may be placed in front of houses at 5 a m, at the earliest An automobile truck service has been organized, and, from 5 o'clock on, trucks pass rapidly through the streets and the contents of the garbage boxes are quickly emptied into their capacious maws, which are immediately closed to prevent odors escaping Further improvement is planned Heretofore trucks have been emptying their contents at special crematories located in the suburbs, at Asnieres for the North and at Issy for the South, in which all garbage is immediately burned The calcined residue is utilized by running it, while in a liquid form, into molds, by which process it is converted into bricks, which the city sells for construction purposes But the process of brick manufacturing is expensive, and requires a large crew of workmen At Marseilles experiments have already been made with the process introduced in Florence by the Italian engineer Beccari Further experiments are now being conducted in Versailles, and the city of Paris is awaiting the results of that trial with a view to introducing the process if the method promises good returns The operating expenses are low, and the fertilizing products thus secured are more valuable than the brick produced at present The garbage is first passed over sieves to remove the solid matter, and the finer substance is transferred to receptacles constructed of reinforced concrete with a capacity of about 20 cubic meters, in which it undergoes a fermentation process similar to that which takes place in septic tanks The tanks are opened after forty days, at which time they contain a pulpy substance resembling that used by gardeners It has only a faint odor, and contains 1 3 per cent nitrogenous products, as compared with 0 45 per cent, the proportion of nitrogen contained in night soil A bacteriologic study of the residue thus obtained has been begun, and a final judgment as to the value of this method of garbage utilization cannot be reached until such study has been completed The area required for a garbage utilization plant employing the Beccari process is not great Investigation of the subject indicates that a city of 60,000 inhabitants would require the construction of around 100 tanks Allowing for the space for trucks, garages, and the accessory equipment, the plant would occupy an area of 1,800 square meters, and could be located in immediate proximity to a city, for the odors emitted are almost negligible The expense of transportation would thus be reduced to a minimum

Electric Treatment of Coryza

Professor Bordier of Lyons has announced a treatment for coryza in which he uses a small but ingenious diathermy apparatus He raises the nasal mucosa to a high temperature The method is a modification of a procedure introduced by Tsinoukas of Athens

The Appointment of Physicians to the Hospitals of Paris

The competitive examinations that, in France, are resorted to in selecting hospital interns, hospital physicians and agrege professors for the faculties of medicine have, since time immemorial, brought forth storms of criticism It is alleged that instructors favor the appointment of their own pupils, or even of their relatives The judges for each competitive examination are chosen by lot, but it is easy to predict the names of the winners in the contest The system does not permit unqualified persons to be selected, but among the rejected candidates there are many persons who are at least equally competent with those who are accepted, and those rejected must prepare themselves for the next competitive examination, until fortune favors them The continual preparation for examinations dulls the faculties of many able young students, who thus have no time left to devote to original research As the number of candidates for the positions cited is at present large, many intelligent students who, under former conditions, would have received appointments before they were 30 years of age are now not appointed until they are 40, 45 or even older, and thus no longer have sufficient time, before the age of retirement, in which to develop a career as men of science From time to time, changes have been made in the organization of these contests The written tests that now are turned in to the examining board do not bear the names of the candidates but only numbers for the purpose of later identification The examinations have now been divided into two stages Candidates who have passed the first stage three times need not take it again and have only to present themselves for the second stage, which consists chiefly of a test of personal merit as revealed by an inspection of the original articles or works previously published by the candidate However, nothing has been able to modify the practice of the judges who, while they deplore the bad state of affairs, regard themselves as honor bound to favor the appointment of their own pupils alleging also that it is the best means of attracting to their departments the most industrious students, who, desirous of improving their chances for advancement, place themselves under the egis of an influential instructor

At the last competitive examination, again, immediately after the drawing of the names of those constituting the board of examiners, the candidates who saw that their chances were not favored by the make-up of the board published in the press the names of the three candidates who would inevitably be appointed, and events justified their "diagnosis and "prognosis' In the light of these happenings, when the names of the members of the examining board for the next competitive contest were announced, Professor Sicard, who found his name among the number, handed in his public resignation, stating, with considerable show of feeling, that he did not wish to have his honor compromised by the bargaining and the intrigues that the administration of the competitive examination provoked In a public letter, he demanded the suppression of the definitive character of the competitive test, and proposed that the selection of candidates be made by the membership of the Société des médecins des hôpitaux from among the candidates who had been twice admitted to the competitive examination after the first test, which constituted a sufficient guaranty as to their technical ability and capacity. He presented the belief that, if selections were made in that manner, while all possible intrigues might not be suppressed, appointments would be made at least on a larger basis, after the manner of filling university positions, and, being based openly on the value of the published works and the researches of the contestants, would at least have the merit of frankness.

ITALY

(From Our Regular Correspondent)

April 30, 1927.

The Rarity of Chlorosis in Italy

At a session of the Società Medico-Chirurgica della Romagna, Dr. Testi of Faenza stated, on the basis of personal research, that chlorosis has almost disappeared from Italy, especially from certain regions. Similar observations have been made in foreign countries. Dr. Testi thinks that the cause for this improvement must be sought in an earlier and more rapid adjustment of the ovarian function, due to the modifications brought about in the psychology of present-day juvenile life.

Cession of the Military Hospital of Milan

The government has ceded to the Università libera Cattolica the buildings and grounds of the Ospedale militare de S. Ambrogio in Milan. On the 31,000 square meters of terrain thus obtained, the Università Cattolica is planning to erect a complete set of buildings, including a church, lecture halls, scientific laboratories, houses for professors and a boarding hall for students. According to a recent decision, this university will comprise faculties of law, letters and philosophy, including graduate schools in various branches of biology and psychology.

A Medical Referendum

The medical review *La Clinica Ostetrica* has referred the following questionnaire to Italian specialists: 1. Should the indications for hysterectomy be extended so that the operation constitutes a complement to cesarean section, or should utero-ovarian destruction be confined to well defined cases? 2. Should sterilization of women be surrounded with special restrictions and based on frank medical indications, or may purely personal or social indications be accepted? 3. Do the children of women with pelvic impairment show evidence of physical or mental weakness? 4. In hysterectomy should one leave in situ or transplant at least one ovary, or should complete ovariectomy be performed?

The Weight of the Human Thyroid

According to the researches of Professor Fazzari, as communicated by him to the Accademia delle scienze mediche in Palermo, in the inhabitants of the province of Palermo the thyroid has an average weight of 20.38 Gm., or, to be more precise, 16.58 Gm. for men and 25.19 Gm. for women. In 1840, the average weight of the thyroid in the inhabitants of Palermo was placed by the anatomist Gorgone at 28 Gm. According to Fazzari, the reduction in weight now observed is to be attributed to the improved hygienic conditions of the city.

The Scarcity of Medical Aids and Assistants at Italian Universities

At a recent session of the chamber of deputies, Guaccero presented a resolution recommending that, in view of the bad situation in the scientific institutes and the university clinics, due to the growing lack of medical aids and assistants, the legal and economic status of that personnel be inquired into, in order that some solution of the problem might be found. In his interpellation, Guaccero called the attention of the minister of public instruction, above all, to the deficiency of assisting personnel in the laboratories of pure science. The economic position of the aids and assistants varies with the type of university in which they serve (state, semistate or independent). According to the reforms introduced by Gentile, the personnel of the independent schools is no longer included among the government employees. The minister of public instruction has accepted the Guaccero resolution, with recommendation that it be adopted.

The Campaign Against Adenoidism

Premier Mussolini recently addressed to the prefects of the realm a circular letter in which he directed attention to the diffusion of adenoidism in Italy and the influence that such pathologic condition may have on the physical and mental development of children, and especially the predisposition that it may induce to tuberculosis. He emphasized also the need of efficient prophylaxis by means of school inspection, the institution of sanitary vigilance committees and the development of interest among patrons of the schools. The prophylactic work should be developed especially in the schools of the city and in the colleges. The school physicians and the instructors should cooperate in discovering children with adenoid symptoms, and their parents or guardians should be urged to procure for them prompt treatment. The municipal government of Rome was the first to launch a special campaign against adenoidism.

BUDAPEST

(From Our Regular Correspondent)

June 14, 1927.

Cooperation of Medical Organizations

During the winter of 1923-1924, several American physicians came to Budapest in search of practical work. By June 6, 1924, it was decided, in compliance with the request of the Hungarian Medical Postgraduate Committee, that the establishing of an American Medical Association in Budapest would be advantageous. June 9, 1924, a meeting was held between the American physicians present in Budapest and several members of the Hungarian Postgraduate Committee, and a committee of American physicians was appointed by the temporary chairman to discuss in detail with the Hungarian Postgraduate Committee the problem of securing work for physicians.

June 22, the committee met with the Hungarian Postgraduate Committee at the office of Professor Grosz and decided that: 1. Courses would be arranged in English if possible, otherwise in German. 2. Whenever possible such hospitals and clinics would be opened to the American physicians for the purpose of practical study as were closed to them up to date. 3. The physicians appearing for such study would be attended to individually during the period of the desired study. 4. The arrangement of fees for the courses should be decided or agreed on by the Hungarian Medical Postgraduate Committee. 5. The American Medical Association in Budapest required the support of the Postgraduate Committee and its influence with the Hungarian government for such privileges as visa fees and exemption of custom fees on packages containing surgical instruments, utensils and necessities. 6. The Secretary of the American Medical Association would be notified as to which of the enumerated clinics can accommodate American physicians. 7. The text and the manner of issuing the certificates which the physicians studying in Budapest are to receive would be officially designated. 8. The possibilities of the country' universities for the American physicians should be evaluated and summarized. 9. The American Medical Association should receive assistance and official support in securing rooms at the Gellért Hotel—one of the most picturesque sites of the city. 10. The privileges extended to American doctors at the Gellért Hotel should also be granted at other hotels, sanatoriums, pensions and private hotels.

The Hungarian Medical Postgraduate Committee appointed a subcommittee to work out these suggestions. The following members were appointed on the subcommittee: president, Baron Dr. Alexander Korányi, professor of clinical medicine; referent, Dr. Géza Illyés, professor of surgical urology; secretary, Dr. Béla Johann, private lecturer; members, Dr. Rudolf Bálint, professor of clinical medicine at the University of Budapest; Dr. Tiberius Verebély, professor of surgery; representatives of the Royal Hungarian "Pázmány Péter" university at Budapest. There are also representatives of the universities of Szeged, Debretzin and Pécs.

The subcommittee reported on the following points, which are in force at present: 1. The special courses held for the American physicians are given partly in English and partly in German. (In most of the clinics there are older assistants speaking the English language.) 2. Nearly all the clinics are pleased to accept American physicians for study. 3. The directors of the clinics agree on the individual treating of studying physicians. 4. The fee for a practical and individual course, lasting three months, is $100 monthly. Courses for groups, lasting from six to eight weeks, with a maximum of five persons, cost $500; with less than five persons, $400. 5. The Central Committee for the postgraduate work of physicians designated a special subcommittee which gives information to American physicians with regard to clinics and hospitals. 6. The American physicians get a certificate in Latin signed by the professor of the respective course, and attested to by the Central Postgraduate Committee. 7. The Central Postgraduate Committee has representatives in the country universities to give courses. The Central Committee is always glad to assist the American physicians, but is not in the position at present to provide lodgings for them.

The subcommittee, after due consideration, recommends attendance for American physicians for postgraduate study at any of the following places: In Budapest, 1. Royal Hungarian "Pázmány Péter" university clinics and institutes. 2. Hospitals of the City of Budapest. 3. Count Albert Apponyi Polyclinic. 4. Jewish Hospital of Budapest. In the country, 1. Royal Hungarian "Francis Joseph" University clinics and institutes at Szeged. 2. Royal Hungarian "Tisza István" university clinics and institutes at Debretzin. 3. Royal Hungarian "Elisabeth" university clinics and institute at Pécs.

The subcommittee appointed Dr. Emil Grosz, professor of ophthalmology, and Dr. Joseph Baló, assistant professor at the university, to act as an information committee for the American Medical Association in Budapest, and to supervise the issuing of postgraduate certificates. At a recent conference of the American Medical Association in Budapest with the information committee, it was definitely resolved that the English speaking physicians shall not be allowed to do postgraduate work unless they are members in good standing of the American Medical Association of Budapest.

All questions arising should be referred through the American Medical Association to Dr. Emil Grosz or to Dr. Joseph Baló, Budapest, University Clinic, Üllöi ut, 26.

Poisoning by Potassium Bichromate

Dr. Michael Verzár describes fully a case of attempted murder by poisoning with potassium bichromate, which occurred in a provincial town. This compound is rarely used for such a purpose, only a few cases having been reported in the literature. The patient, an electrician, aged 46, was given the poison in red wine, this vehicle being chosen to cloak its color, and also in a mixture of lemonade and soda. The man took altogether about 8 Gm. (120 grains). At first he vomited heavily, and had convulsions, pain in the stomach, dizziness, headache, cold sweats and diarrhea. His face later became ghastly pale; the eyes dilated to the maximum; respirations were very slow and labored, about 10 to 12 a minute; the pulse was 60, and was weak and compressible. The urine contained traces of albumin and considerable blood. The patient recovered after a fortnight, but complained of occasional pains in the stomach and of backache; albumin was persistent for some time in the urine. Dr. Verzár reviews the subject of potassium bichromate poisoning and recommends a treatment which consists in giving alkalis and milk to counteract the irritating poison, and an anodyne for the pain. He describes also the methods of finding all soluble chromates.

BERLIN

(From Our Regular Correspondent)

June 18, 1927.

The Need of Pure Milk for Infants

At a recent meeting of the Verein fur innere Medizin und Kinderheilkunde, Professor Reyher demanded that cow's milk destined for infants' use shall be pure and rich in vitamins when produced and that it shall also be kept in that condition until it is used. Not only the summer peak of the infant mortality curve but also the winter peak, which is caused by respiratory infections, are closely related to the pure milk question. Although the children die from the bacterial insult, their illness may develop as the result of damaged nutrition, which weakened their resistance and exposed them to infection.

The pediatrician demands for infant feeding the presence of vitamin B (the antiberiberi vitamin) and vitamin C (which prevents scurvy). The fat content is much less important. The results obtained with the various kinds of milk used in this region did not point to satisfactory conditions. Only in case he takes three precautions is Reyher able to produce good milk in his small experiment station. He feeds the cows well, both qualitatively and quantitatively; in summer putting them out to pasture, and in winter supplying suitable green fodder, turnips, hay and, for the sake of vitamin B, small allowances of clover and soy-bean straw. Lean cows must be well fed for from two to three months before they can give milk containing any considerable amount of vitamins. To insure the best quality of milk, milch cows should not be bred from, for a cow with calf stores up vitamins, which impoverishes the milk. For the destruction of bacteria Reyher recommends, exclusively, boiling for a short period in the homes. He is opposed to pasteurization by heating for a considerable period at a comparatively low temperature on the ground that the process destroys only the vitamins. The decision as to the quality of a milk is made at the place of production. In order to get "first-class fresh raw milk," the dairy must be conducted with hygienic precautions. In the home it should be brought to a quick boil, boiled for a few minutes only, and then brought to a low temperature until it is to be used. Canned condensed milk lacks the necessary vitamins. Powdered milk, which is comparatively easy to keep free from contaminating organisms, and which is also easy to transport, should be prepared from fresh milk of unobjectionable quality. The desiccation process should be carried out in a conservative manner. Reducing the milk to a fine spray favors oxidation, which may easily destroy the sensitive vitamin C.

Inoculation Against Tuberculosis

At a meeting, March 11, in the bureau of the public health service (Reichsgesundheitsamt), the federal health council advocated thorough testing of the various inoculation procedures against tuberculosis, since in none of the procedures have the effects of inoculation been sufficiently established.

Census of Persons with Infirmities

In supplementation of the census of June 16, 1925, which included population, trades and industries, a census of infirm persons has been taken.

The number of infirm persons in Germany, exclusive of the Saar region, and with the exception of Wurtemberg and Lubeck, has now been published. According to the preliminary report, the number of male blind persons with permanent domicile in the whole *reich* was 20,471; females, 14,232; the records for Prussia showed, respectively, 12,757 and 8,816. The number of male deaf mutes and deafened persons in Germany was 20,835; females, 17,744; in Prussia, 12,739 and 10,768, respectively.

The number of persons with other bodily infirmities, in the German *reich*, was 292,635 males and 112,030 females; in Prussia, 192,958 males and 76,278 females.

The number of persons with mental defects was, for the German *reich*, 98,926 males and 95,443 females; in Prussia, 60,189 males and 56,757 females.

With reference to the total population, the following figures were computed: To each 10,000 of population, there were in Germany 7.1 blind males and 4.6 blind females; in Prussia, there were 6.9 and 4.5, respectively.

The number of deaf mutes and deafened persons in the German *reich* was 7.2 males per 10,000 population, and 5.7 females; in Prussia there were 6.9 and 5.5, respectively. As to the number with other bodily infirmities, there were 101.4 males per 10,000 population, and 36.2 females; in Prussia, there were 104.4 and 38.7, respectively.

The proportion of persons with mental defects, in the German *reich*, was 34.3 males per 10,000 population, and 30.8 females; in Prussia, there were 32.6 and 28.8, respectively.

Of each hundred male and female persons, respectively, with infirmities, in the German *reich*, there were 14.7 males and 28.5 females being cared for in institutions for the infirm. The corresponding figures for Prussia were 14.2 and 26.7, respectively.

Marriages

Julius Howard Temes, Toronto, Ont., Canada, to Miss Hannah Hass of Jersey City, N. J., June 22.

George E. Dudenbostel, Chicago, to Miss Nona Russell of Ashdown, Ark., June 28.

James Crescent Redington to Miss Evelyn Hansen, both of Galesburg, Ill., June 27.

William Lucas Butler, Stafford, Kan., to Miss Mabel Newhill of Rozel, May 27.

William Peter Connor to Miss Muriel O'Neil, both of Youngstown, Ohio, July 9.

Arthur Perkins, Oakland, Calif., to Miss Katharine Becker of Ogden, Utah, June 14.

Adrian Walter Voegelin to Miss Verna Rhine, both of Philadelphia, June 27.

David P. Ferris to Miss Annice B. Peterson, both of St. Louis, June 30.

Deaths

Hanau Wolf Loeb ⊕ St. Louis; Ensworth Medical College, St. Joseph, Mo., 1887; Medical Department of Columbia College, New York, 1888; dean, professor and director of the department of otolaryngology, St. Louis University School of Medicine; formerly secretary and professor of nose and throat diseases, Marion-Sims-Beaumont College of Medicine, St. Louis; member of the American Academy of Ophthalmology and Otolaryngology, the American Laryngological Association, the American Otological Society, the American Association of Anatomists and past president of the American Laryngological, Rhinological and Otological Society; secretary of the American Board of Otolaryngology; chairman of the Section on Otology and Laryngology, 1907-1908, and member of the House of Delegates in 1909 of the American Medical Association; author of "Operative Surgery of the Ear, Nose and Throat," "Military Surgery of the Ear, Nose and Throat," and editor of the *Annals of Otology, Rhinology and Laryngology;* on the staffs of the St. Louis City Hospital and St. Mary's Group of Hospitals; for many years president of the staff of the Jewish Hospital, where he died, July 6, of heart disease, aged 61.

William Otterbein Krohn ⊕ Chicago; Northwestern University Medical School, Chicago, 1905; formerly head of the department of philosophy, psychology and ethics, Adelbert College and Cleveland College for Women, Western Reserve University, Cleveland; assistant professor of psychology and pedagogy, University of Illinois, and professor of psychiatry, Loyola University School of Medicine, Chicago; delegate to the American Medical Association in 1918; psychologist to the Eastern Hospital for Insane, Kankakee, Ill., 1897-1899; specialized in neurology and psychiatry; served during the World War; author of "In Borneo Jungles" and other books, and co-author of "Insanity and Law"; aged 59; died, July 17, at the West Suburban Hospital, Oak Park, Ill., of hypernephroma with metastases in the lungs and brain.

Claudius Redon Prall Fisher ⊕ Boundbrook, N. J.; Jefferson Medical College of Philadelphia, 1877; formerly president of the Boundbrook Board of Health; past president of the Medical Society of New Jersey, and the Somerset County Medical Society; on the staff of the Somerset Hospital, Somerville; aged 69; died, June 5, of heart disease.

Wallace Cushing Keith, Brockton, Mass.; Harvard University Medical School, Boston, 1884; member of the Massachusetts Medical Society; formerly member and chairman of the school board; for six years state health inspector; at one time on the staff of the Brockton Hospital; aged 68; died, June 19, of heart disease.

Ernest Fanning Tucker ⊕ Portland, Ore.; Harvard University Medical School, Boston, 1884; emeritus professor of gynecology, University of Oregon Medical School, Portland; on the visiting staffs of the Multnomah Hospital and St. Vincent's Hospital, where he died, July 2, as the result of pneumonia, aged 65.

Edward Jerome Peck, Hot Springs, N. C.; Vanderbilt University School of Medicine, Nashville, 1879; University of Nashville Medical Department, 1880; member of the Medical Society of the State of North Carolina; aged 68; died, in June, at the Mission Hospital, Asheville, of heart disease.

Charles Joseph Albl, Cleveland; Western Reserve University School of Medicine, Cleveland, 1908; member of the Ohio State Medical Association; for eight years on the staff of St. Alexis Hospital; aged 46; died, June 2, of septic peritonitis following a streptococcus infection of the throat.

Henry E. Williams, Pine Bluff, Ark.; Memphis Hospital Medical College, 1884; Medical Department of the Tulane University of Louisiana, New Orleans, 1886; member of the Arkansas Medical Society; for twenty years county coroner; aged 72; died, June 23, of carcinoma of the prostate.

Edward Arthur Dawson, Brooklyn; Albany Medical College, 1902; member of the Medical Society of the State of New York; served during the World War; aged 48; died, July 3, at the Long Island College Hospital, following an operation for duodenal ulcer.

Anthony Brewis Russell ⊕ East Orange, N. J.; University of Virginia Department of Medicine, Charlottesville, 1896; on the staffs of the Presbyterian Hospital and the Newark Charitable Eye and Ear Infirmary, Newark; aged 55; died, June 30, of angina pectoris.

Julius C. Sommers, Madison, Wis.; Medical Department of the University of Illinois, Chicago, 1901; member of the

State Medical Society of Wisconsin; for twelve years county physician; aged 57; died, May 5, at a local hospital, following a long illness.

Archibald Lybolt, Bogota, N. J.; Medical Department of the University of the City of New York, 1878; member of the Medical Society of the State of New York; aged 84; died, June 15, of hypertrophy of the prostate gland and heart disease.

Frederick Berkeley Gunter, Chelsea, Mass.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1893; aged 57; died, June 11, at the Peter Bent Brigham Hospital, Boston, of chronic myocarditis and chronic nephritis.

Walter Edwin Paris, Savannah, Ga.; Medical Department of the Tulane University of Louisiana, New Orleans, 1894; member of the Medical Association of Georgia; aged 55; died, June 10, in Atlanta, of tumor of the brain.

William H. Stauffer ⊕ St. Louis; University of Michigan Medical School, Ann Arbor, 1887; member of the American Proctologic Society; on the staff of the Deaconess Hospital; aged 64; died, June 24, of abdominal aneurysm.

Edward Lawrence Willson, Jr., Marysville, Kan.; University Medical College of Kansas City, Mo., 1902; member of the Kansas Medical Society; served during the World War; aged 49; died, June 6, of cerebral hemorrhage.

Martha Elizabeth Mann, Boston; Boston University School of Medicine, 1885; formerly associate professor of diseases of women at her alma mater; aged 79; died, June 20, at her home in Brookline, of valvular heart disease.

Alexander Dowsing Mims, Altheimer, Ark.; Medical Department of the Tulane University of Louisiana, New Orleans, 1908; aged 45; died, June 24, at the Davis Hospital, Pine Bluff, of carcinoma of the left bronchus.

Herbert George Lampson, Duluth, Minn.; University of Michigan Medical School, Ann Arbor, 1895; county health officer; aged 56; died, June 25, of pulmonary embolism following an operation for appendicitis.

Niels Christian Hansen, Portland, Maine; McGill University Faculty of Medicine, Montreal, Que., Canada, 1903; member of the Maine Medical Association; aged 64; died, May 24, of angina pectoris.

Joseph Clarence Caldwell, Butler, Pa.; University of Pittsburgh School of Medicine, 1895; member of the Medical Society of the State of Pennsylvania; aged 59; died, June 8, of gastric hemorrhage.

Edward Beecher Hooker, Hartford, Conn.; Boston University School of Medicine, 1877; aged 72; died, in June, of streptococcus infection, following the removal of a stone from the bladder.

Frank Fisher Moore ⊕ Homer City, Pa.; Medico-Chirurgical College of Philadelphia, 1903; on the staff of the Indiana (Pa.) Hospital; aged 46; was shot and killed by a patient, June 25.

Hiram Rodney Burton ⊕ Lewes, Del.; University of Pennsylvania School of Medicine, Philadelphia, 1868; on the staff of Dr. Beebe's Hospital; aged 85; died, June 17, of carcinoma of the bladder.

Joseph C. Marcus, Cincinnati; Medical College of Ohio, Cincinnati, 1878; member of the Ohio State Medical Association; aged 69; died, June 26, at the Jewish Hospital, of pneumonia.

Leigh Yerkes Baker, Washington, D. C.; University of Michigan Homeopathic Medical School, Ann Arbor, 1890; aged 59; died, June 23, of ascending lateral sclerosis and paraplegia.

George Holland Fay, Whitewater, Wis., Hering Medical College, Chicago, 1913; Chicago College of Medicine and Surgery, 1914; also a veterinarian; aged 67; died, June 29, of sarcoma.

Moses Rosenberg, Rochester, N. Y.; Detroit College of Medicine and Surgery, 1891; aged 57; died, February 23, at the Long Island College Hospital, Brooklyn, of diabetes mellitus.

John E. Hyer, Curtin, W. Va.; University of Louisville (Ky.) School of Medicine, 1892; member of the State Medical Association of West Virginia; aged 60; died, July 5, of uremia.

Rachel R. Benn Dunkle, Meadville, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1890; for nearly twenty years a medical missionary in China; aged 73; died, May 4.

William Franklin Baker ⊕ Carmel, Ind.; Indiana University School of Medicine, Indianapolis, 1911; aged 43; died, June 30, at St. Vincent's Hospital, Indianapolis, of peritonitis.

Guy Allen Brooks, Marvell, Ark.; Emory University School of Medicine, Atlanta, 1915; served during the World War; aged 33; died, June 18, at Little Rock, of myocarditis.

Edward Thomas Calhoun, New Haven, Conn.; Yale University School of Medicine, New Haven, 1927; aged 26; died, April 10, of embryoma of the testis with metastases.

William Allen Post, Grantville, Ga.; University of Georgia Medical Department, Augusta, 1913; member of the Medical Association of Georgia; aged 48; died, April 7.

Edward Douglas Davis, Winchester, Va.; University of Maryland School of Medicine, Baltimore, 1894; aged 58; died suddenly, June 15, of carcinoma of the stomach.

Edward Dunn Freeman, Osgood, Ind.; Medical College of Ohio, Cincinnati, 1877; formerly secretary of the Ripley County Medical Society; aged 73; died, June 20.

Walter Browning Peet, New York; Medical Department of the University of the City of New York, 1897; aged 65; was found dead, June 22, at Hammonton, N. J.

Sampson C. Cunningham, Corsicana, Texas; Meharry Medical College, Nashville, 1917; aged 39; died, June 22, at a hospital in Fort Worth, of acute appendicitis.

Robert Judson Fly ⊕ San Diego, Calif.; University of Pennsylvania School of Medicine, Philadelphia, 1899; aged 59; died, April 17, at the Sunshine Hospital.

Abner Newton Steele ⊕ Anniston, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1890; on the staff of St. Luke's Hospital; aged 66; died, May 28.

Thomas James Dehey, Cleveland; St. Louis University School of Medicine, 1914; served during the World War; aged 59; died, June 4, of angina pectoris.

Edwin R. Lovesee, Monticello, Wis.; Chicago Medical College, 1877; aged 79; died, June 22, as the result of a cerebral hemorrhage suffered some time ago.

John J. Whyte, Golden Valley, N. D.; McGill University Faculty of Medicine, Montreal, 1889; aged 59; was killed, June 8, in an automobile accident.

William Monroe Wroten, Magnolia, Miss.; Louisville (Ky.) Medical College, 1872; Confederate veteran; aged 80; died, June 18, of facial erysipelas.

John L. Daniels, New York; New York Homeopathic Medical College and Hospital, New York, 1882; aged 67; died suddenly, July 3, of heart disease.

William Thomas Collette, Versailles, Ky.; University of the South Medical Department, Sewanee, 1899; aged 50; died, in June, of heart disease.

William S. Simonton, Flemington, W. Va. (licensed, West Virginia, under the Act of 1881); aged 79; died, June 4, following a long illness.

John C. Norwood, Washington, D. C.; Howard University School of Medicine, Washington, 1884; aged 68; died, June 18, of cerebral hemorrhage.

Harry Seymour Pearse, New York; Albany Medical College, 1892; aged 57; died, June 11, at Montclair, N. J., of cerebral hemorrhage.

Charles H. Meyers ⊕ Cincinnati; Miami Medical College, Cincinnati, 1896; aged 59; was killed, June 13, when struck by an automobile.

Fairchild A. Bevens, *Pottsboro, Texas; Beaumont Hospital* Medical College, St. Louis, 1892; also a druggist; aged 59; died in June.

Harry Bestow Huver, Williamsville, N. Y.; University of Buffalo School of Medicine, 1898; also a dentist; aged 53; died, June 4.

Florence West Lyde Altaffer, Cleveland; Cleveland Homeopathic Medical College, 1899; aged 62; died, March 13, of pneumonia.

George Bartholomew Whare, Two Harbors, Minn.; Rush Medical College, Chicago, 1903; aged 50; died, June 14, of pneumonia.

Isaac Lockhart Peebles, Meridian, Miss.; Mississippi Medical College, Meridian, 1911; also a minister; aged 71; died recently.

Demos George Kyraz, New York; National University, Athens, Greece, 1908; aged 42; died, April 6, of erysipelas.

Jackson B. Golden, Atlanta, Ga.; Atlanta Medical College, 1892; aged 68; died, June 15, of heart disease.

The Propaganda for Reform

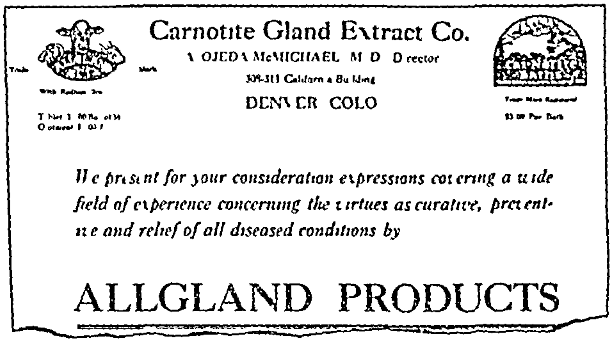
In This Department Appear Reports of The Journal's Bureau of Investigation of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

MORE MISBRANDED NOSTRUMS

Abstracts of Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Vitona—The Vitona Mineral Ore Company of Marshall, Texas, shipped to Ohio, in November, 1925, a quantity of 'Vitona' that the federal authorities declared was misbranded When analyzed by the Bureau of Chemistry at Washington, Vitona was found to consist of a crude silicate ore containing iron sulphate, free sulphur and charcoal, with traces of calcium, magnesium and aluminum sulphate The preparation was falsely and fraudulently labeled as a remedy or cure for rheumatism indigestion kidney and bladder trouble, eczema, diabetes, piles, sore eyes, erysipelas, constipation, female complaints, and various other conditions In October, 1926, judgment was entered finding the product misbranded, and the court ordered that it be destroyed—[*Notice of Judgment 14712, Issued April 1927. Chem Suppl 225*]

McMichael's Allgland with Radium—The Carnotite Gland Extract Company Denver Colorado, shipped in August, 1924, a quantity of Dr McMichael's Allgland with Radium" which the federal authorities declared was misbranded When analyzed by the Bureau of Chemistry, the preparation was found to be tablets containing 91 per cent of milk sugar, together with talc a trace of nitrogenous organic matter and a faint trace of radium Some of the claims made on or in the trade package were


Carnotite Gland Extract Co.
A OJEDA McMICHAEL M D Director
309-311 California Building
DENVER COLO

We present for your consideration expressions covering a wide field of experience concerning the virtues as curative, preventive and relief of all diseased conditions by

ALLGLAND PRODUCTS

'The Great Body Builder Makes You Feel Younger

"A Gland And Body Food Eliminating, Preventing And Correcting All Diseases Caused By Over Work Nervous Or Rundown Conditions"

"It prevents diseases or it gives relief in all diseased conditions"

These and similar claims were declared false and fraudulent, and in November, 1926 judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed—[*Notice of Judgment 14724, Issued April, 1927 Chem Suppl 225*]

Allfood with Radium—The Allfood Laboratories, Denver, Colorado, shipped to California in May, 1926, a quantity of "Allfood with Radium' which the federal authorities declared was misbranded When analyzed by the Bureau of Chemistry, the stuff was found to consist of about 86 per cent milk sugar and 14 per cent of material insoluble in water, comprising mainly talc mineral matter, and a small amount of animal glandular tissue Each tablet contained about 0 09 millimicrograms of radium The claims made for this preparation were grossly false and fraudulent In January, 1927, W S Townsend, Los Angeles, having appeared as a claimant for the property, and the product having been relabeled to comply with the law, the court ordered that it be released to Townsend upon payment of the costs of the procedure—[*Notice of Judgment 14832, Issued May, 1927. Chem Suppl 227*]

Brooten's Kelp Ore.—The Kelp Ore Remedies Corporation, Portland, Oregon, shipped in March, 1926, from Oregon to Washington a quantity of 'Brooten's Kelp Ore" and also of "Brooten's Kelp Ore Liquid," which the federal authorities declared were misbranded When analyzed by the Bureau of Chemistry, it was found that Brooten's Kelp Ore was a shale like clay containing iron and aluminum sulphates, and a trace of sulphur, while the Brooten's Kelp Ore Liquid was a water solution of iron and aluminum sulphates, with traces of calcium magnesium and potassium salts The curative claims made for these products were false and fraudulent and, in December, 1926 judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed—[*Notice of Judgment 11827, Issued May, 1927. Chem Suppl 227*]

Correspondence

PRIORITY IN ISOLATION OF PARATHYROID HORMONE

To the Editor—The appearance in book form of the Harvey Lectures for 1926 containing an article by Dr J B Collip on the hormone of the parathyroid glands provides me with a reason for putting on record a statement of the facts relating to the question of priority in the separation of this substance

Dr Collip refers to the work of previous investigators, lumping them all together as if they had all failed whereas he alone is entitled to the credit for both the originality of the conception and execution of the idea which resulted in obtaining the internal secretion of the parathyroids in a soluble form

In May, 1924, I presented to the Society of Experimental Medicine and Biology, at the invitation of Prof William J Gies, the following abstract of my work in this field

> Parathyroid glands from oxen were extracted with acidified alcohol Lipins and proteins were removed from the extract Crystalline material was obtained by concentration which increased definitely the calcium content of the blood when dissolved in Ringer solution and injected into the circulation Its effects upon the calcium content of the blood have been compared with those of adrenalin pituitrin and insulin Whether this crystalline material is the active calcium mobilizing substance in the gland or merely a carrier of it in the preparation, remains to be determined Its separation is additional evidence in favor of the view that the parathyroid glands secrete a hormone that influences the calcium content of the blood

This abstract contained the original conception which Collip used for all his work, his first publication appearing in the following year, 1925, that is, the idea that the parathyroid glands produce a calcium mobilizing and calcium regulating substance for the blood and tissues If this idea was correct, it occurred to me that it ought to be possible to increase the blood calcium of normal animals with an extract of the parathyroid glands Also that the demonstration of a calcium mobilizing effect of such an extract would be the proof that the internal secretion of the gland was present, if in addition such an extract could be shown to influence the electrical excitability of the peripheral nerves of normal and parathyroidectomized animals This idea had never before been voiced in the literature and no work had previously concerned itself with it

The idea was presented to Prof William J Gies of the department of biologic chemistry of Columbia University, who agreed enthusiastically concerning its rationality The initial work was done in the laboratories of the department of biologic chemistry of Columbia University with the assistance of the valuable critical suggestions of Professor Gies and I have been at work there on the problem ever since. An active soluble extract was found which did precisely what had been expected. Crystalline material was obtained which presented the same properties as the soluble extract. Work was commenced concerning the effect of the extract on parathyroidectomized animals with tetany, which was reported in the *American Journal of Physiology*, January, 1926, and the *Journal of Laboratory and Clinical Medicine*, February, 1926. Work on both the laboratory and clinical sides, with this crystalline material, has been continuously carried on since 1924. Meanwhile it seems to me that for those who may have read something concerning the matter the facts regarding priority should be properly presented.

LOUIS BERMAN, M.D., New York.

BRACHIAL PLEXUS BLOCK

To the Editor:—I have just received THE JOURNAL, May 7, in which there is an article entitled "Brachial Plexus Block: Its Clinical Application." To some of the statements made I must take friendly issue. In one part of the article in question the statement is made in effect that the practice of seeking for paresthesias in the extremities in doing a brachial plexus block is dangerous and not to be countenanced, and that "the cords of the plexus cannot be touched by the needle with impunity." Kulenkampff is an acknowledged master in this work and is, after Hirschel (whose method of axillary approach to brachial plexus nerve block is not commonly used), a pioneer in the field and the protagonist of the supraclavicular route of approach. Heinrich Braun, too, needs no introduction as a surgeon and student of local anesthesia. Now, it has been my privilege to be under the direct tutelage of these men at their hospital in Germany in receiving instructions in local anesthesia. I can well remember how Professor Braun and Professor Kulenkampff impressed me with the absolute necessity of obtaining the very paresthesias in the finger tips against which the writers of the statement referred to decry, before proceeding with the injection. Time and again I have been told by them that the sine qua non was the tingling in the finger tips which was the signal to stop the further penetration of the needle immediately and to inject the solution; a further fact: the patient on whom a brachial plexus block is being done is instructed painstakingly beforehand to report immediately any peculiar tingling in the finger tips. Then and only then do either Professor Braun or Professor Kulenkampff proceed with the injection. In the latest German (edition 7, 1925) book of Braun, Oertliche Betäubing (Local Anesthesia), are several statements bearing on this point. I shall translate from the German somewhat fully: "Patients . . . are to declare the onset of paresthesias and must at the moment these are felt make it known by saying 'now'" (page 422); and again, "If one does not obtain paresthesias immediately, one is to seek it by slight changes of the needle's directions" (page 423). Obviously it is important for paresthesias to be gotten, and so these men taught me. As to solution and dosage: From 10 to 20 cc. of a 2 per cent solution of procaine hydrochloride and epinephrine hydrochloride is used. If perfect anesthesia does not result in ten minutes, 5 cc. more of a 4 per cent solution can be added. Direct queries on my part of Professors Braun and Kulenkampff as to brachial cord injury in this method of local anesthesia have brought forth a reply in the negative; occasionally there have been some mild late and transient paresthesias which were of no consequence. A final word as to posture of patients: Contrary to the practice of the writers of the article under discussion, the sitting position is used by Braun and Kulenkampff in all cases except when some condition of the patient acts as a contraindication.

This letter has been written in the hope that those practicing local anesthesia of this region will find in these few principles of the masters some definite guides to direct them in their efforts.

M. A. PERSKY, M.D.,
84 Orms Street, Providence, R. I.

THE IDEAL ANTACID

To the Editor:—In the communication of Dr. John L. Kantor (THE JOURNAL, June 25, page 2047), he raises the question as to the relative values of other neutral antacids which were not mentioned by Loevenhart and Crandall in their article on the advantage of calcium carbonate in gastric hyperacidity. He refers to the work of Shattuck and himself. According to the work of Shattuck, Rohdenburg and Booher (THE JOURNAL, Jan. 19, 1924, p. 202, table 1), calcium carbonate has approximately two to seven times the power of magnesium phosphate and calcium phosphate for neutralizing acid. The relative neutralizing power of the various antacids, as calculated from their chemical formula, is as follows:

Calcium carbonate, $CaCo_3$	100
Sodium bicarbonate, $NaHCO_3$	59.6
Tricalcium phosphate, $Ca_3(PO_4)_2$	32.3
Trimagnesium phosphate crystals, $Mg_3(PO_4)_2 \cdot 4H_2O$	29.8

Magnesium hydroxide and carbonate are not included in the table because of their disturbing effect on the bowel.

A. S. LOEVENHART, M.D., Madison, Wis.

"DIHYDROXYACETONE AND DIABETES"

To the Editor:—Apropos of the editorial comment on dihydroxyacetone and diabetes (THE JOURNAL, June 11, p. 1895) may I respectfully draw your attention to the following references which the writer of the editorial apparently overlooked:

Canad. M. A. J. **16:** 367, 1926.
J. Clin. Investigation **2:** 521, 1926.
J. Clin. Investigation **2:** 533, 1926.
Biochem. J. **20:** 486, 1926.
Proc. Soc. Exper. Biol. & Med. **24:** 238, 1926.

These represent observations made independently in three different laboratories and on the whole corroborate the results in our laboratory. In only one laboratory have the observations not agreed with our own, and these appear to form the subject matter of the editorial.

I. M. RABINOWITCH, Montreal.

RUBBER GLOVE FOR OPERATIONS ON HAND

To the Editor:—Regarding the useful method of securing a sterile field for operations on the hand by use of rubber gloves, described by Dr. D. C. Patterson, Bridgeport, Conn., in THE JOURNAL, June 4, this method was demonstrated to me by Dr. Alan B. Kanavel of Chicago a number of years ago. Dr. Kanavel may be too modest to claim it, but I believe that he is the originator of the method.

FRANK P. CORRIGAN, M.D., Cleveland.

CHANCRE OF THE NASAL SEPTUM

To the Editor:—In THE JOURNAL, May 28, Dr. Zeisler publishes a report of three patients suffering from chancre of the nasal septum, one of the patients being a physician.

I know of two more physicians who acquired syphilis by picking their noses while examining patients. Especially younger colleagues forget themselves while examining patients and scratch their itching nose. Students ought to be cautioned; also the interns and younger doctors who are so eager to work and learn.

JACQUES HOLINGER, M.D., Chicago.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF AMEBIC DYSENTERY

To the Editor.—Will you please write me the latest treatment in detail of amebic dysentery? The patient I have has been under treatment with colonic irrigations, emetine and several of its derivatives, with practically no results, over a period of two years. The symptoms seem much improved at times and the patient gets along very well for three or four weeks, and then has a recurrence of bleeding, mucus, nausea and vomiting, with intense pain throughout the intestinal tract. I should be very glad if you could give me any suggestions and form of treatment.

M.D., Connecticut.

Answer.—The history cited is typical of the chronic cases of endamebiasis in which, under the influence of emetine, the endamebas are converted from the *histolytica* stage to the less active *tetragena* stage. Emetine, though of great value in the acute or subacute stages and relapses of the disease, cannot be relied on for the complete eradication of the infection. Recourse must now be had to powdered ipecac given in full dosage and at regular intervals. The reason for the superiority of ipecac in the latent stage lies probably in the fact that it takes time for the alkaloids to be extracted from the powder. There is a greater degree of concentration and local action in the intestine, and less of the undesirable systemic effects.

The powdered ipecac is best administered in 0.3 Gm. enteric coated pills. From ten to fifteen of these pills should be administered at bedtime, not less than three hours after food, and the patient should be urged to go to sleep as promptly as possible afterward. The addition of tannic acid (0.06 Gm.) to each pill is likely to lessen nausea and vomiting. Should the tendency to nausea or emesis be great, it may be necessary to administer tincture of opium (from 0.5 to 1 cc.) half an hour before giving the pills or morphine (from 0.008 to 0.016 Gm.) hypodermically.

The full course of treatment requires the retention of at least 100 pills, equivalent to 30 Gm. of the powdered root. As only those pills become active that disintegrate, the stools should be examined for pills that are passed, and these, of course, subtracted in calculation of the total dose. If too great a proportion of pills is passed in the stool, the coating should be pierced with a sharp needle, which is likely to expedite disintegration. This treatment needs to be accompanied by absolute rest in bed during the entire duration of the treatment, which rarely covers more than two weeks. The diet should be composed of clear liquids the first week to which milk may be added during the second week. The diet is intended to assist in maintaining maximum possible ipecac concentration in the bowel.

Once complete destruction of the organisms has been secured by a course of specific treatment, intestinal irrigation with mild astringent solutions may favor healing. These irrigations should not, however, be used during the ipecac course, because they interfere with the retention of the drug in the large bowel. Bismuth subnitrate in doses of a heaping teaspoonful every three or four hours for a week or two, or until the stools become thoroughly formed, is also useful after-treatment.

MUCOUS COLITIS

To the Editor:—I have a patient who has mucous colitis. A physician has advised her to use stovarsol. Please let me know what the tablets are and what they are used for; also who makes them. Please give me treatment for mucous colitis. I have tried many things.

M.D., Colorado.

Answer.—Stovarsol (Acetarsone, N. N. R.) is an organic arsenical which was discarded by Ehrlich as inferior to arsphenamine. It has since been advocated in the treatment of amebic dysentery and in other diseases due to intestinal protozoa. In a case of colitis, therefore, due to such organisms, stovarsol might conceivably be useful. The Powers-Weightman-Rosengarten Company (Philadelphia) market it in 0.25 Gm. tablets.

The reason for the unsatisfactory state of the therapy of mucous colitis lies in the fact that it is a symptom complex rather than a disease. Colonic hypersecretion of mucus may be caused by such a variety of mechanical, chemical and nervous factors that a thorough investigation is the great essential to successful treatment. Local causes must first be sought for by thorough physical examination, by stool examination (as for intestinal parasites), by sigmoidoscopy and by roentgenoscopy. Foci of sepsis in the teeth, sinuses, tonsils or pelvis may have an etiologic relation. Only when none of these are discoverable may recourse be had to the theory of purely metabolic or nervous disturbance, and this sought for and eliminated, if possible.

In the great majority of cases, mucous colitis is merely an aggravated form of spastic constipation, due to the vicious circle of proximal colon stasis and distal colon spasm. The stasis is responsible for irritating fecal matter, which causes spasm in the transverse and descending colon; and this, in turn, aggravates the stasis. Irritant cathartics are worse than useless: they aggravate the spasm and the mucous secretion. First the spastic bowel is soothed by "pouring oil on the troubled waters" by means of oil enemas, and by taking oil perorally: olive oil, liquid petrolatum or, if necessary, castor oil. External heat is applied and belladonna administered as antispasmodics, with phenobarbital, amidopyrine, and possibly codeine as analgesics. A bland diet is indicated during the attack. Continuance of such diet, however, perpetuates the trouble, because of its constipating tendency. A change must therefore be made to a coarse laxative diet as soon as possible, which can in some cases be done suddenly, but in others must be done gradually through intervening stages of a soft laxative diet.

As worry, nervous overstrain or excitement may precipitate a spastic condition of the bowel and thus initiate the vicious circle referred to, mental hygiene forms an important background of the treatment. Especially pernicious is it for the patient to worry about his own condition. Hence attempts are made to banish this worry from the patient's mind by explaining, for instance, that the mucus evacuated is somewhat like the tears in that it is secreted in response to emotions or trifling irritation and is not due to severe organic disease.

POSSIBLE DIAGNOSIS OF SCARLET FEVER

To the Editor:—I wish you would suggest a diagnosis of the following case: A girl, 6 years old, ordinarily active, of the "nervous" type, has been subject to many spells of sore throat and "colds." Tonsils and adenoids were removed one year ago with some improvement. Previous to tonsillectomy marked eosinophilia was noted but has not been observed since tonsillectomy. The patient is rather anemic and has slight enlargement of the thyroid gland. She is of small stature but fairly well nourished. Measles occurred in February, 1927, a light case without any apparent after-effects. About April 18 she had a slight rash in the inguinal creases. Just previous to the onset of this rash there was sore throat, which continued. I was called to see her, April 25, on account of marked inflammation of the tongue. Many of the papillae were greatly enlarged, some up to the size of small split peas, so that the tongue looked papular. The entire tongue, the papillae and all the mucosa lining the lips, cheeks, palate and pharynx were intensely red and tender. The temperature was 102; the pulse, 114. April 26, after treatment with calamine lotion, the slight rash in the inguinal regions was faded out. Under local use of magnesia magma, the mouth cavity and tongue slightly improved, so that eating again became possible. By May 1 the tongue and mouth cavity were in normal condition and temperature was gone. April 28, and for a day or so afterward, there was left conjunctivitis which lasted for a couple of days. There was also left-sided headache and pain in the left side of the face. April 28 there was first noted an exfoliation at the tips of both thumbs. This process continued for several days, involving all the fingers. First a whitish area would appear on the palmar surface of the digital tip as if the skin was blistered but without any serum. This area extended and the epidermis was pulled off by the child, leaving large areas of cutis over the whole tip and extending dorsally to the sides and bases of the nail. After a week this ceased and the child has since remained well. At no time did she appear seriously ill. The information given is incomplete, but may be sufficient for you to give some idea as to diagnosis. Please omit my name.

M.D., California.

Answer.—During the course of the acute illness referred to, the following symptoms are noted:

1. Pharyngitis: an eruption in the inguinal fold.
2. Enlarged papillae of the tongue, with redness and swelling of the mucosa of the mouth as well as of the palate and the pharynx.
3. In addition to this, a temperature of 102 and pulse 114 on the seventh day of the disease.
4. On the tenth day of the disease, conjunctivitis, a left-sided headache and pain in the face.
5. At this period, also, exfoliation at the tips of the thumbs, eventually involving all the fingers.

If we assemble these symptoms and attempt to interpret them, it seems reasonable to assume that the child was suffering from a scarlet fever infection. It is true that the rash was very slight and occurred in the inguinal creases, but we know that the extent of a scarlet fever eruption varies within wide limits. A case may run its course without any eruption, or the eruption may be distributed in an irregular way. It is not uncommon to find a linear erythema on the inner aspect of the elbows, in the groins or in the popliteal spaces.

The appearance of the tongue may be regarded as an example of a strawberry tongue of scarlet fever. It is recalled that this condition is not an initial lesion but may appear as late as the sixth or seventh day and continue for two weeks.

The redness and swelling of the mouth, palate and pharynx are not unusual symptoms in scarlet fever.

While the fever was not high and the pulse not unusually rapid, nevertheless the temperature was such as might occur in a moderately severe case of scarlet fever.

The exfoliation that occurred on about the tenth day is typical and its first appearance as a whitish area has been described as the pinpoint desquamation of scarlet fever. The fact that the desquamation began at the tips of both thumbs and spread to the other fingers would confirm the assumption of the diagnosis of scarlet fever.

SALIVATION FOLLOWING OTITIS MEDIA

To the Editor:—I have a patient who is a music teacher, both vocal and instrumental. She had scarlet fever when about 16 years of age. Her health is good, but she has a chronic suppurating ear. Her chief trouble is excessive salivation. There is such a flew that when sitting in church she must continually keep swallowing. There has been hypertrophy of the sublingual glands since she had scarlet fever. Can you suggest any treatment? I cannot find anything except for mercurial stomatitis. E. W. Reed, M.D., *Holton, Kan.*

Answer.—The salivation in this case is evidently due to the middle ear disease by way of irritation of the chorda tympani. Not only for this reason but also because of the unwholesomeness of chronic suppuration anywhere in the body, steps should be taken, surgical if necessary, to eradicate this factor. For temporary symptomatic relief, mild daily saline catharsis coupled with moderate drink restriction, the employment of astringent mouth washes (zinc chloride or alum, 1 per cent) and the sublingual use of atropine sulphate (0.0006 Gm.) hypodermic tablets, as required, might be recommended.

COAL TAR OINTMENT IN ECZEMA

To the Editor:—Please inform me of the strength of crude coal tar ointment as used in eczema.

J. W. Chamberlain, M.D., Wyalusing, Pa.

Answer.—Crude coal tar, 2 Gm.; zinc oxide, 2 Gm.; petrolatum, 30 Gm. Dr. Charles J. White's prescription.

AMENORRHEA AND SYPHILIS

To the Editor:—I should like some information on the following case: A young married woman, now 23 years of age, menstruated regularly until her first pregnancy, four years ago. Following delivery she had abscesses of both breasts and the baby was taken from the breast. Menstruation became established and was normal until her second pregnancy. Delivery occurred in October, 1925. Breast milk lasted only a few weeks and breast feedings were discontinued. She menstruated for one day in December, 1925, and has not menstruated since. There have been no subsequent pregnancies. In February, 1926, she came to me with a secondary syphilitic rash, and the blood Wassermann reaction was strongly positive. Four injections of neoarsphenamine were given in March and April, at irregular intervals, because of the husband's attitude. Treatment was then discontinued until Dec. 27, 1926, since which time she has been given arsenic and mercury at regular intervals. The pelvic organs appear normal and the general health is excellent. What are the possible causes of this cessation of menstruation? Please omit name and address. M.D., Ohio.

Answer.—From the information given, the most likely cause of the amenorrhea is syphilis. While generally in the primary and secondary stages syphilis has no especial effect on menstruation or may produce an excessive flow, there are on record three cases of amenorrhea which were apparently due to tertiary syphilis. These were reported by Meirowsky and Frankenstein (*Deutsche med. Wchnschr.* **36**:1444, 1910). The patients had had amenorrhea for periods varying from six to eight years and menstruation was restored by the use of iodide and mercury. The authors believed that the cause of the amenorrhea in these cases was a syphilitic involvement of the ovaries, but Schroeder looks on the amenorrhea as functional, resulting from the general body injury that resulted from the infection.

The breast abscesses most likely have nothing to do with the amenorrhea, especially because the patient menstruated regularly after she had the abscesses. The short period of nursing which followed the second labor is not a factor in the amenorrhea because it is not absence of nursing but active and prolonged lactation that produces the so-called lactation atrophy. Since the pelvic organs appear normal there is most likely no atrophy of the muscularis of the uterus. There probably is, however, atrophy of the mucosa.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alaska: Juneau, Sept. 6. Sec., Dr. Harry C. DeVighne, Juneau.

National Board of Medical Examiners, Parts I and II., Sept. 14-16. Applications should be made by August 14. Sec., Dr. John H. Rodman, 1600 Walnut Street, Philadelphia.

New Hampshire: Concord, Sept. 8-9. Sec., Dr. Charles Duncan, Concord.

Oklahoma: Oklahoma City, Sept. 13-14. Sec., Dr. J. M. Byrum, Shawnee.

Porto Rico: San Juan, Sept. 6. Sec., Dr. D. D. Biascoechea, Box 804, San Juan.

West Virginia: Martinsburg, July 26. Commissioner, Dr. W. T. Henshaw, Charleston.

West Virginia March Examination

Dr. W. T. Henshaw, commissioner of the West Virginia Public Health Council, reports the oral, written and practical examination held at Charleston, March 16-18, 1927. The examination covered 11 subjects and included 110 questions. An average of 80 per cent was required to pass. Of the 14 candidates examined, 12 passed and 2 failed. Twenty candidates were licensed by reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
George Washington University Medical School	(1926)	86 3
Howard University School of Medicine	(1926)	80
Univ. of Louisville School of Medicine	(1925) 85.4; (1926)	81.6
University of Maryland School of Medicine	(1926)	88.3
Harvard	(1925)	87.8
Jefferson	926)	90 8
Medical		80.7
Medical	(1926) 85.4,	94.2
Dalhousie	(1926)	87.2

College FAILED	Year Grad.	Per Cent
University of Maryland School of Medicine	(1926)	78.6
Meharry Medical College	(1926)	77.7

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University Medical School	(1912)	Dist. Colum.
Emory University School of Medicine	(1917)	Georgia
University of Georgia School of Medicine	(1921)	Georgia
Rush Medical College	(1926)	Illinois
Indiana University School of Medicine	(1913)	Indiana
Baltimore University School of Medicine	(1900)	Maryland
College of Physicians and Surgeons, Baltimore	(1901)	Maryland
University of Maryland School of Medicine	(1925) (1926)	Maryland Maryland
Eclectic Medical College, Cincinnati	(1926)	Ohio
Western Reserve University School of Medicine	(1917)	Ohio
Chattanooga Medical College	(1907)	Virginia
University of Tennessee College of Medicine	(1925, 2) (1926)	Tennessee Kentucky
Medical College of Virginia	(1923) (1924)	Virginia
University College of	(1904)	Virginia
University of Virginia	23)	Dist. Colum.
University of Toronto	21)	Penna.

Wisconsin Reciprocity Meeting

Dr. Robert E. Flynn, secretary of the Wisconsin Board of Medical Examiners, reports the meeting held at Milwaukee, April 12-13, 1927, at which 8 physicians and 1 osteopath were licensed by reciprocity. The following colleges were represented:

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Loyola University School of Medicine	(1926)	Minnesota
State University of Iowa College of Medicine	(1925)	Iowa
University of Louisville School of Medicine	(1921)	Kentucky
University of Michigan Medical School	(1922)	Michigan
University of Minnesota Medical School	(1926)	Minnesota
Ensworth Medical College, St. Joseph	(1911)	Nebraska
Columbia University College of P. and S.	(1924)	New York
Western Reserve University School of Medicine	(1912)	Missouri
Osteopath		Iowa

Book Notices

Elements of Hygiene and Public Health. An Introduction to Preventive Medicine for Students and Practitioners of Medicine. By Charles Porter, M D, B Sc, M R C P., Medical Officer of Health, Metropolitan Borough of St Marylebone. Second edition Cloth Price, $4 50 Pp 425, with 98 illustrations New York Oxford University Press, 1926.

The author has prepared this book primarily for the use of physicians The various phases of preventive medicine and hygiene are discussed briefly and correctly There is nothing novel in regard to either the material or the method of presentation to appeal particularly to an American audience

Basal Metabolism in Health and Disease By Eugene F Du Bois, M D, Medical Director, Russell Sage Institute of Pathology Second edition Cloth Price, $5 Pp 431, with 92 illustrations Philadelphia. Lea & Febiger, 1927

This edition of a standard work on basal metabolism is written primarily for those engaged in the practice of medicine, for medical students, for physiologists and for dietitians In the first part of the book, metabolism in health is considered After a brief chapter on the history of the subject, fat, protein and carbohydrate metabolism are discussed at some length Then the laws of physics of greatest importance in metabolic processes are taken up briefly and their connection with the gases of the body is considered These fundamental considerations are followed by chapters having to do with the principles of respiration apparatus and methods of calculation, the estimation of the surface area of the body, the factors influencing normal basal metabolism, and the theories concerning it In the second part, metabolism in disease is considered There are chapters on undernutrition, overnutrition and obesity, diabetes, diseases of the thyroid, the relationship of basal metabolism to the suprarenal, pituitary and sex glands, diseases of the blood, heart and kidneys, basal metabolism in fever, water metabolism, and effects of diseases of the nervous system, and drugs on basal metabolism This work, by one of the greatest authorities on the subject, is a clear and up-to-date exposition of basal metabolism so written as to be readily understandable by clinicians The underlying physical, physiologic and chemical principles are clearly brought out in the first part, and in the second the influence of pathologic changes in various organs or systems of organs is considered with equal clarity. In this edition, which has been completely and thoroughly revised, details of methods and theories that are not generally accepted are not considered An eminently practical work of this kind should be in the library of every internist

Les stupéfiants Par le docteur R Porak, professeur aux écoles de medecine de Teheran et de Changai Paper. Price, 18 francs Pp 348, with 43 illustrations Paris Gaston Doin & Cie, 1927

The author prefers the title "stupefying agents" to "narcotics" because he denies that opium and cocaine, the chief members of the group, cause sleep when they are used properly. He denies the value of animal experimentation in this field, preferring to administer the substances under investigation to himself or others, and to deduce their action by the effects that he observes No amount of experimentation on animals affords an adequate explanation of the actions of narcotics on man because of the greater development of man's brain, and clinical studies are essential; but the method adopted by Porak can lead only to confusion for reasons that are well known He states that he used dogs in certain experimental studies, but the protocols which he gives afford little information This is not an indictment of animal experimentation, but the experiments described were poorly planned, or else they do not represent the complete investigation.

Porak smoked opium and used cocaine by insufflation and recorded his sensations, his actions and the renal activity for varying periods of time He contends that renal activity is an index of the state of the vegetative nervous system, and he says (p 11) that during the stage of stupefaction (caused by cocaine) diuresis lessens but that it increases during the stage of excitement; hence the curve of diuresis represents exactly the successive stages through which the nervous system passes under the influence of cocaine. In an analogous manner he observed the effects of opium, hashish, codeine, acetylsalicylic acid, valerian, alcohol and coffee, in all cases attaching great importance to the curve of urinary secretion. He insists, with reference to experimentation, on the importance of variations in urinary output (p. 290) because this method of investigation permits one to follow the functional rhythm. He admits that the electrocardiograph and radioscope have great value, but he says that one cannot keep a patient under observation with them during every minute of days and weeks following the administration of a drug, and hence the thermometer and curves of diuresis have an undisputed advantage in the investigation of human pharmacodynamics.

Many of the views expressed are commonplace, and it is possible that many of the statements with which the reviewer does not agree are true; but they are not supported by evidence. It would be unjust to convey the impression that the author has not given much thought to his subject or that he has not made shrewd observations of the effects of the narcotics on man; but the book does not advance our knowledge in this difficult field and many readers will be confused rather than enlightened. Seguin is credited with the discovery of morphine in 1903 Cheinisse is credited with observations in 1923 on the effects of papaverine which Macht had made some years before. Certain terms used, such as "hydromotor center" (which is distinguished from the vasomotor center) and "vital rhythm," are difficult to interpret

King of Mapledale. A Loyal Dog. By Loyd Thompson Cloth. Price $2. Pp 245. New York: D. Appleton & Company, 1927.

Physicians in their hours of ease are likely to be as varied in their choice of hobbies and interests as are any other group Dr. Thompson is apparently a man of many interests, since he has written on many subjects. His present volume is the study of a dog. It will appeal equally to the boy or to the adult who has an interest in canine intelligence. It exemplifies canine psychology. Every one will love the King of Mapledale, a thoroughbred Irish setter.

Tuberculosis of the Lungs A Practical Guide for General Practitioners By H. Hyslop Thompson, M.D, D.P.H, County Medical Officer of Health and County Tuberculosis Officer for Hertfordshire, and A P. Ford, M R C S, L R C P., D P.H, Clinical Tuberculosis Officer and Deputy County Medical Officer of Health for Hertfordshire. Cloth. Price, $4 Pp 179, with 30 illustrations New York: William Wood & Company, 1927.

The authors must be commended for the able manner in which they have covered the subject of pulmonary tuberculosis in so small a work. Written primarily for the general medical practitioner and the tuberculosis officer under the British national health insurance act, it might be read with benefit by all who practice medicine. Its value is not for any new information but for the able and concise manner in which the authors put forth many of the essentials of this disease. One wishes at times that certain chapters might have been more complete, yet the brevity of the entire subject matter lends itself to the attention of the man desirous of information as to the latest ideas in this special field.

Handbuch der Haut- und Geschlechtskrankheiten. Von J. Jadassohn Band I.—1 Teil. Anatomie der Haut. Von B Bloch. F. Pinkus, und W Spalteholz Paper. Price, 87 marks Pp 564, with 390 illustrations Berlin Julius Springer, 1927.

Handbuch der Haut- und Geschlechtskrankheiten. Von J Jadassohn. Band XIX Kongenitale Syphilis Von G. Alexander und Anderen Paper Price, 48 marks. Pp 374, with 95 illustrations Berlin Julius Springer, 1927.

Originally planned by Jadassohn and Neisser in 1912 and interrupted by the war, this comprehensive system of skin and venereal diseases has finally appeared. One notes with regret that many of the distinguished authors in the original list have since died, notably Ehrmann, Neisser, Merk and Kyrle. Volume I contains chapters on the normal anatomy of the skin by Pinkus, comprising 369 pages with 336 illustrations. The subject is taken up in a broad phylogenetic manner with an unusually detailed description of the minute anatomy of the skin. The comparative anatomist, the embryologist and the anthropologist will find many points of interest. The research worker in dermal histology will welcome the digest of the extensive literature with a complete bibliography at the end of each chapter, and will find the graphic reconstruction of dermal structures of great value. There are sections on the racial characteristics of hair, on the ekkrine and apokrine glands and many other subjects that are usually not touched on in anatomic textbooks. Spalteholz has an excellent account of the blood vessels of the skin in a chapter of fifty-two pages. Bloch requires ninety-nine pages to describe the derivation of melanin, its chemistry and the biochemical process of pigment formation, especially as elucidated by his dopareaction. The nature of the material presented in this volume makes it a difficult task for the reviewer, but that it has been done with the usual characteristically germanic thoroughness and accuracy is obvious. If the character of the other volumes of the system is in line with that of this volume, it will become for many years the standard reference work for the dermatologist.

Volume XIX devotes 374 pages to congenital syphilis. The general pathology is taken up by Rietschel, congenital syphilis of the skin and mucous membranes by Lederman, its visceral and nervous manifestations by Hochsinger, the eye involvement by Igersheim, the ear by Alexander, the dental changes by Kranz, general diagnosis and prognosis by Zumbusch, serology by Lesser, treatment by Erich Muller, and prophylaxis by Boas. This volume has the advantage of better condensation of the material. Due credit is given American authors for their contributions to the subject. Many of the colored illustrations have been taken from the Finkelstein-Galewsky-Halberstaedter Atlas, and are obviously from moulages. Pediatricians and syphilologists will find this a concise and well rounded exposition of every phase of congenital syphilis.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

Clinical Physiology (A Symptom Analysis). In relation to Modern Diagnosis and Treatment. A Text for Practitioners and Senior Students of Medicine. By Robert John Stewart McDowall, D Sc, M B, F R C P, Professor Physiology, King's College, University of London With an introduction by W. D. Halliburton, LL.D, F.R C P., F R S. Cloth. Price, $7. Pp. 383, with illustrations. New York: D. Appleton & Company, 1927.

Physiology as needed by the practitioner in the interpretation of the signs and symptoms of disease.

The Quartz Mercury Vapour Lamp: Its Possibilities and Uses in Public Health and General Practice. By J. Bell Ferguson, M D, D P H, Medical Officer of Health, County Borough of Smethwick With an introduction by Sir Henry J. Gauvain, M.A, M D, M C., Medical Superintendent, Lord Mayor Treloar Cripples Hospitals Cloth. Price, $2 50. Pp. 105, with 38 illustrations. New York: Paul B. Hoeber, Inc, 1927.

Another optimistic monograph on the uses of ultraviolet rays in medical treatment.

Deutsche Frauenheilkunde. Geburtshilfe, Gynäkologie und Nachbargebiete in Einzeldarstellungen. Herausgegeben von Rud Th. von Jaschke. Band III. Physiologie, Pflege und Ernährung des Neugeborenen einschliesslich der Ernährungsstörungen der Brustkinder in der Neugeburtszeit. Von Dr. Rud. Th. von Jaschke, o ö Professor der Geburtshilfe und Gynäkologie in Giessen. Second edition. Paper. Price, 39 marks Pp 522, with 119 illustrations Munich: J. F. Bergmann, 1927.

New edition of standard textbook on care of the new-born infant.

The Theory and Practice of Massage. By Beatrice M. Goodall-Copestake, Examiner to the Chartered Society of Massage and Medical Gymnastics Fourth edition. Cloth. Price, $4.50. Pp. 267, with 72 illustrations. New York: Paul B. Hoeber, Inc, 1927.

Fourth edition of standard work on massage with general principles and reference to use in special conditions.

History of Medical Practice in Illinois. Volume I—Preceding 1850. Issued by The Illinois State Medical Society in Commemoration of Its Diamond Jubilee. Compiled and Arranged by Lucius H. Zeuch, M D., a Member of the Committee Appointed for this Task. Cloth. Price, $10 per set. (To be issued in 2 volumes) Volume I. Pp. 713, with illustrations Chicago: The Book Press, Inc., 1927.

First volume of rather sketchy compilation of material on early medical practice in Illinois.

The Artificial Light Treatment of Children in Rickets, Anaemia and Malnutrition. By Katherine M. L. Gamgee, M R C S, L R C.P, D P H. With an introduction by Professor Leonard Hill, M B, F R S, Director of the Department of Applied Physiology and Hygiene, National Institute for Medical Research. Cloth Price, $4. Pp. 172, with illustrations New York: Paul B. Hoeber, Inc., 1927.

Monograph on use of ultraviolet rays, describing apparatus and presenting case reports.

The Truth About Heredity. A Concise Explanation of Heredity Written for the Layman By William S. Sadler, M.D, F.A.C S, Director of the Chicago Institute of Research and Diagnosis Cloth. Price, $2.50. Pp. 512, with illustrations. Chicago. A. C. McClurg & Company, 1927.

A somewhat uninspired summary of current views of heredity.

Technique in the Management of Diabetic Patients By Henry J. John, M A., M D. Cloth. Price, $1 50 Pp. 62, with illustrations. Cleveland: William Feather Company, 1927.

This is a small book, profusely illustrated. It gives about all there is to know on the subject; the illustrations are so much to the point that it is hardly necessary to read the text.

Textbook of Diseases of the Skin and Syphilis. Designed for the Use of Students and Practitioners By Albert Strickler, M D, Professor of Dermatology and Syphilology, Temple University, Department of Medicine Cloth Price, $8 Pp 689, with 218 illustrations. Philadelphia: F. A. Davis Company, 1927.

Textbook along usual lines but with little reference to literature.

Die Ohrenkrankheiten im Kindesalter mit Einschluss der Grenzgebiete. Von Dr Gustav Alexander, o. Professor der Ohrenheilkunde an der Wiener Universitat Second edition. Paper. Price, 39 marks Pp 399, with 115 illustrations Leipsic: F. C. W. Vogel, 1927.

Handsomely illustrated monograph on diseases of the ear in childhood.

In Europe By George S Dougherty. Cloth. Price, $1. Pp. 163. New York. Avondale Press, Inc, 1927.

Outline of a criminologist's trip abroad.

The Medical Department of the Army: Its History, Activities and Organization By James A Tobey, Major, Sanitary Corps (Reserve), U S A Institute for Government Research Service Monographs of the United States Government No. 45. Cloth. Price, $1 50. Pp 161. Baltimore Johns Hopkins Press, 1927

Die Ohrenheilkunde der Gegenwart und ihre Grenzgebiete. Herausgegeben von Otto Korner, o o Professor der Medizin, in Rostock. XI Die Topographie des Kehlkopfgerustes Von Dr Med. W. Minnigerode Paper Price, 18 marks Pp 25, with 68 illustrations. Munich: J F Bergmann, 1927.

Pathologie des menisques du genou. Par Albert Mouchet, chirurgien des Hôpitaux de Paris, et Louis Tavernier, professeur agrégé à la Faculte de médecine de Lyon. Paper Price, 18 francs. Pp. 98, with 26 illustrations Paris: Masson & Cie, 1927.

Die Elektrolyte: Ihre Bedeutung für Physiologie, Pathologie und Therapie Von Dr Med. S. G Zondek, a o Professor an der Universität Berlin. Paper. Price, 24 marks. Pp. 365, with 28 illustrations. Berlin: Julius Springer, 1927.

The International Medical Annual. A Year Book of Treatment and Practitioner s Index. Forty Fifth Year, 1927. Cloth. Price, $6 Pp. 560, with illustrations. New York: William Wood & Company, 1927.

Abstract of the Proceedings of the Thirty Seventh Annual Meeting of the Association of Life Insurance Medical Directors of America. Volume XIII. Cloth. Pp 326 New York, 1927.

Report of the Registrar General for the Fiscal Year Ended June 30, 1926. Board of Health of the Territory of Hawaii, Bureau of Vital Statistics Paper. Pp. 119. Honolulu, 1926.

Vade-mecum de parasitologie. Par le Dr. J. Loiselet, professeur de parasitologie à la faculté libre de Lille. Paper. Price, 12 francs. Pp. 152. Paris: E. le François, 1927.

Miscellany

UNNECESSARY HAZARDS

We subscribe to these principles: First, the purchaser is entitled to know what he buys, particularly where health may be involved; second, when there is an approved harmless process established, mere price considerations do not justify assuming even a slight risk; and third, if the question of a hazard enters, the burden of proof should rest with those offering the new method and should not involve the expenditure of public funds.

Lead costs approximately one-tenth as much as tin, and this has been a factor in the adoption of a method for the weighing of silk in which tin-lead phosphate is the raw material rather than tin tetrachloride. The lead becomes fixed in the fiber as lead oxide, lead phosphate, or some combination of the two. Besides being a much cheaper process, silk weighted with lead salts seems to deteriorate more slowly than silk weighted with tin. There are some disadvantages. For instance, some of the lead is extracted in the benzene baths used by dry-cleaners and is ready to combine with the sulphur which may be brought into the baths in wool. The dry-cleaners have already had some difficulty, since they are not familiar with all the characteristics of the garments they treat, an occasional white flannel suit has been both cleaned and turned gray in one operation. Lead-weighted fabrics are also sensitive to the hydrogen sulphide in the air, and the lighter shades turn dark on exposure and may eventually turn almost black. Fancy what comments may be made concerning the dye and the dyer when this takes place, and think how many laundry owners and dry-cleaners, without a chemist to make an adequate defense, will make settlement for damage laid to them rather than risk the anger of a dissatisfied customer! It is doubtful whether the real culprit will be apprehended, and trouble is made all along the line because some one, for an initial price advantage, puts a process into practice without giving thought to all the ills that may be involved.

Although scientists generally agree that lead poisoning is due more to inhalation or ingestion of lead dusts, cases of poisoning from the free application of lead plaster have been reported. Much of the lead-weighted silk finds its way into commerce in underwear, and it is a question whether lead in silk on coming into contact with the various secretions of the skin might not be absorbed to some extent, for it is found that such silk treated with 3 per cent acetic acid at body temperature does lose some of the weighting material. It must also be remembered that lead is a cumulative poison and, while the hazard may be slight, individuals who might question the desirability of wearing a lead-weighted garment should be given the facts and allowed to make their own decision.

At first thought this would seem to be a problem for the public health authorities, but it is hardly fair to ask the public to pay for an investigation the outcome of which concerns first and foremost those engaged in the business of weighting silks. The public is not endangered by tin-weighted silks, and it seems clear to us that if such investigations were to be made some other than the public treasury should bear the expense. The difficulty of the problem is apparent, for silks are not all weighted to the same degree. They are not subjected to the same number or kinds of laundering operations, are not worn for equal periods or under the same conditions by various individuals and, what is even more disconcerting, individual idiosyncrasies must be considered.

Speaking for ourselves, if we must have weighted silks, we prefer a tin shirt to a lead one, and we think our fellow sufferers should be given the information and the opportunity to choose for themselves. In particular, we protest the unnecessary exposure of the public to a potential hazard, the existence of which is not dictated by any fundamental consideration.—*Industrial and Engineering Chemistry.*

Medicolegal

License Required for Sanatorium—As to Chiropractor

(Diepenbrock v. State Board of Health (N. H.), 135 Atl. R. 531)

The Supreme Court of New Hampshire says that the plaintiff petitioned for a writ of mandamus against the state board of health to compel the defendants to grant him a license to maintain a sanatorium under chapter 131 of the public laws of the state. In their answer the defendants averred that the plaintiff was already conducting an asylum for the reception of persons of unsound mind, although his application for a license for that purpose had been rejected, and they asked that he be enjoined from maintaining such asylum or sanatorium until duly licensed. The requested injunction was granted, and the plaintiff made a motion that it be dissolved, which motion was denied. The statute provides:

> No person or corporation shall locate, conduct or maintain a sanitarium or asylum for the reception of persons of unsound mind, or for the treatment of specific diseases, without having first obtained a license so to do from the state board of health. All facts relating to the character of the proposed sanitarium or asylum and of the applicant shall be thoroughly investigated by said board, who shall, at their discretion, issue a license to such applicant, with such restrictions and regulations as they may deem necessary for the protection of the interests of the state.

The power of the legislature to deal with all matters pertaining to the preservation of life and health cannot be doubted. Nor is the particular statute objectionable because it invests the defendants with power to issue licenses at their discretion. Apparently the plaintiff did not question the constitutionality of the statute but contended that, since he was a duly qualified chiropractor holding the requisite certificate, he was not subject to the provisions of chapter 131, or else was entitled to a license as a matter of right. His contention was without merit. The law applies to all persons indiscriminately. Practitioners of medicine and surgery, as well as chiropractors, are required to pass an examination and receive a license before they are permitted to practice in New Hampshire, but the license so received does not permit either a chiropractor or a physician to maintain an asylum for the reception of persons of unsound mind until the board of health, in the exercise of reasonable discretion, has granted a license for the specific purpose. The plaintiff's application for such a license was refused by the defendants, after investigation. The court, having found as a fact that he was maintaining an asylum for the reception and treatment of persons of unsound mind, without first having obtained a license from the state board of health to operate and conduct such an asylum, properly denied his motion to dissolve the injunction granted.

Loss of Teeth Compensable, Disfigurement of Hand Not

(Odom v. Atlantic Oil Producing Co. (La.), 110 So. R. 754)

The Supreme Court of Louisiana thinks that it was error not to allow the plaintiff compensation for the loss of three lower front teeth; under clause (e) of subsection 1 of section 8 of the employers' liability act of that state, which provides that, in cases not falling within any of the provisions already made, where the employee is seriously permanently disfigured about the face or head, or where the usefulness of a member or any physical function is seriously permanently impaired, the court may allow such compensation as is reasonable in proportion to the compensation specifically provided in cases of specific disability named. The court says that, in its opinion, the loss of three lower front teeth is a serious permanent disfigurement. Moreover, such a loss, within the contemplation of clause (e), is a serious permanent impairment of a physical function, since it interferes with the one, sustaining the loss, in eating. The fact that the teeth may be, and in this instance were, replaced, does not wholly remove the disfigurement or the impairment, or the seriousness of either, though it lessens it. The case does not come within the exception that the clause makes with reference to cases already provided for, and, in this court's view, the plaintiff should be allowed compensation for this injury As the law fixes the period for which the allowance may be made at 100 weeks, the court thinks that, in this instance, a reasonable compensation would be $3 a week for 100 weeks

According to the testimony, the plaintiff lost one phalanx of the index finger, the first phalanx, and part of the second phalanx of the second finger, and part of the first phalanx of the third finger of his right hand, but as he did not lose as many as two of the phalanges of any one of his fingers, the court holds that he was not entitled to compensation for the phalanges lost, because the employers' liability act, as amended in 1924, nowhere provides for the loss of fewer than two phalanges of a finger, and, in fact, impliedly negatives the idea that compensation may be granted for the loss of fewer than two The court further holds that the plaintiff could not recover under clause (e) for the disfigurement or the impairment of the use of his hand, occasioned by the loss of the phalanges mentioned, for the act impliedly negatives that he might

Validity of Agreement in Compromise of Account

(Leff v Adams (Texas), 289 S W R 102)

The Court of Civil Appeals of Texas, in reversing a judgment which denied the plaintiff physician any relief, says that he brought this suit against an executrix in her representative capacity to recover on an alleged balance of an account for medical services rendered the deceased The petition alleged, in substance, that the full account for the services was of the reasonable value of $711, and alleged in the alternative that the plaintiff submitted an account for services rendered in the sum of $650, that the defendant agreed and promised to pay and the plaintiff agreed to accept the sum of $650 for the services so rendered, and that the defendant thereafter paid $350 on the account, leaving a balance of $300, which the defendant had refused to pay, though often requested The court thinks that the petition was not subject to a special exception as stating an offer in compromise of the balance sued for, or due on the account, although such an exception was sustained at the trial, after which the plaintiff undertook to prove his claim as itemized under his first count But if an express agreement to pay, and to accept in payment, for the services rendered the balance of $300 was entered into and in part carried out, as alleged, this court sees no reason why both parties should not be bound thereby. The court also thinks that the evidence of, and a letter written by, the attorney for the estate of the deceased should have been admitted, the letter being to the effect that the defendant authorized him to write the letter and to send inclosed to the plaintiff a check for $350, with promise to remit the balance of the account at a later time The tendered evidence was excluded on the theory that the petition stated only a compromise proposition for settlement of the account But a valid compromise agreement, as alleged, though partly executory (yet to be performed), operates as a bar to the full account as it formerly was, and the suit would be on the unpaid balance as agreed The court thinks that the plaintiff should have been permitted to try his case and offer his evidence on his second count.

Injuries to Workmen from Exposure to the Elements

(Consumers Co v Industrial Commission et al (Ill), 154 N E R 423)

The Supreme Court of Illinois, in reversing a judgment and setting aside an award of compensation in favor of a workman whose hands were frostbitten while he was shoveling coal, says that the question in dispute was whether the injuries suffered by the man arose out of his employment Injuries resulting from exposure to weather conditions, such as heat, cold, ice, snow or lightning, are generally classed as risks to which the general public is exposed, and not within the purview of workmen's compensation acts, although the injured person, at the time he received his injury, may have been performing duties incident to, and in the course of, his employment The rule is generally recognized, however, that, if an employee, because of his duties, is exposed to a special or peculiar danger from the elements—a danger that is greater than that to which other persons in the community are subjected—and an unexpected injury is sustained by reason of the elements, the injury constitutes an accident arising out of and in the course of the employment within the meaning of workmen's compensation acts If the character of the employment is such as to intensify the risks that arise from extraordinary natural causes, an accident under such circumstances is one arising out of the employment The causative danger must be peculiar to the work, and not common to the neighborhood It must be incidental to the character of the business, and not independent of the relation of master and servant If the accident, under the circumstances of the employment, was merely a consequence of the severity of the elements, to which persons in the locality, whether so employed or not, were equally exposed, it is not compensable

Treatment of Fracture—Reading of Roentgenograms

(Hollis v Ahlquist et ux (Wash), 251 Pac R 871)

The Supreme Court of Washington, in affirming a judgment in favor of the defendants, says that the plaintiff had an oblique fracture of the tibia of the left leg at a point 3 or 4 inches below the knee He was taken to a hospital where the defendant physician was called to treat the leg which was manipulated, examined through a fluoroscope, and roentgenographed The roentgenogram indicated a perfect alinement as well as apposition of the bones A Thomas splint was then put on After several days the swelling began to subside and a plaster cast was put on About forty-eight hours afterward a roentgenogram was taken which showed that, while there was a perfect alinement of the bones, there was not perfect apposition, since the bones overlapped about a quarter of an inch The defendant decided to allow nature to proceed A bleb having become painful the cast was split and the fluid in the bleb drawn off The plaintiff then went home, after which he was attended by another physician

The question of negligence offered on the trial was based on the fact that, since the roentgenogram taken when the plaintiff first went to the hospital showed what appeared to be perfect alinement and apposition of the broken bone, then any result thereafter which did not indicate the same result must of necessity be the result of unskilful treatment on the part of the physician No evidence of any kind was offered indicating in the remotest degree that the treatment given was not the approved and customary treatment sanctioned by the medical profession Moreover, the testimony was overlooked which showed that the roentgenogram indicating a perfect result after the plaintiff arrived at the hospital was taken after manipulation by the defendant in an endeavor to get the bone in proper position But, even if it were true that, without manipulation, the bones were in approximately correct position after the arrival at the hospital all the testimony showed that, with the swelling of the bruised leg, the muscles contracted and pulled the short piece of the tibia upward and away from the longer piece, which was the condition shown when the roentgenogram was taken about two days after the plaster cast was put on It was also testified without contradiction that, as the swelling departed the relaxation of the muscles allowed the shorter piece of the tibia to resume its normal position, and that this was what happened in this case

Roentgenograms were taken later on before the trial, and it was contended that they showed that this result was not obtained The roentgenograms were in evidence, and, from an examination, this court is unable to say that this result was not reached The callus union of the bone was quite apparent, and there was nothing to show any overlapping In such a case laymen must depend on the testimony of experts Even the physicians depend greatly, if not wholly, on the evidence of experts in the reading of these pictures The roentgen ray experts as well as the physicians testified that the result reached was good, and there was no evidence that the last roentgenograms showed a lack of apposition

Clearly the facts in this case did not demonstrate negligence, nor were there any facts the reasonable inference from which was negligence A physician is not charged with negligence because the result is not what he desired In spite of all his skill and learning, there are many factors over which he has no control; hence the rule so often announced by the courts that he is responsible in damages only when he fails to possess such skill and learning as is usually possessed by the average member of the profession in the locality where he practices, and to apply that learning with reasonable care.

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, Detroit, September 12-16. Dr. W. P. Wherry, Bankers Reserve Life Building, Omaha, Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Asheville, N. C., September 15-17. Dr. J. E. Davis, 111 Josephine Avenue, Detroit, Secretary.

American Electrotherapeutic Association, New York, September 12-16. Dr. Richard Kovacs, 223 East Sixty Eighth Street, New York, Secretary.

Colorado State Medical Society, Glenwood Springs, September 6-8. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.

Idaho State Medical Association, Twin Falls, August 29-31. Dr. J. N. Davis, Kimberly, Secretary.

Missouri Valley, Medical Society of the, Des Moines, Iowa, September 14-16. Dr. Charles Wood Fassett, 115 East Thirty First Street, Kansas City, Mo., Secretary.

Oregon State Medical Society, Salem, September 1-3. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.

Washington State Medical Association, Tacoma, August 29-31. Dr. C. H. Thomson, 508 Cobb Building, Seattle, Secretary.

MISSOURI STATE MEDICAL ASSOCIATION

Seventieth Annual Session, held at Sedalia, May 2-5, 1927

General Treatment of Fractures

The President, Dr. W. H. Breuer, St. James, in the Chair

Dr. Charles E. Hyndman, St. Louis. Generally speaking, the treatment of fractures has reached a very high plane of efficiency. While the restoration of anatomic relations is to be earnestly striven for, the main point to be borne in mind is the restoration of the function of the injured part in the shortest time and with the least possible deformity and discomfort to the patient. As a general rule, the simpler nonoperative treatment is most satisfactory. Early manual reduction with least manipulation wherever possible, complete immobilization and early gentle manipulation and massage of the soft parts give uniformly better results. To attempt to reduce fractures by pressure over the displaced fragments is unwise. Routine use of the roentgen ray is strongly urged in every case, always to be taken from two planes. Plaster-of-paris casts should be used cautiously in acute fractures. As a rule, fractures properly reduced and immobilized cause little discomfort. The presence of continued severe pain should be investigated. The routine use of tetanus antitoxin and thorough drainage is strongly advised in every case of compound fracture. Open operative measures should be employed only when one is sure that the closed method cannot accomplish a good functional result. It is safer to give guarded prognoses in all cases of fractured bones. Errors will be frequently avoided if all sprains are treated as fractures until proved otherwise.

Fracture of Upper and Lower Jaw

Dr. W. T. Coughlin, St. Louis: The fundamental principles for treating fractures in general hold good in the treatment of jaw fractures. The means of their application vary. Of first importance is the diagnosis. Opening and closing of the mouth while maintaining proper occlusion is never possible in any jaw fracture if much displacement exists. Malocclusion is the rule, tenderness on pressure over the fracture point is always present. In condyle or neck fracture, the chin swings toward the involved side on opening, occlusion may be normal. Diagnosis is easy in fracture of the body and the jaw or on the gingival process of either jaw. The fingers must grasp the bone on either side of the fracture, testing for mobility. The roentgen ray is most important both before and after reduction. Reduction is the second principle. The occlusion must be regained. Reduction is often easily obtained by having the patient make an effort to open or close the mouth while manipulation is being done. Fragments that have become fixed can be drawn into line by elastic traction, special appliances being necessary. Pull and counter pull are to be used as in fractures elsewhere. Early reduction is best. Fixation is the third principle. How to obtain it is a mere detail, there being no routine practice. The fixed point important for the upper jaw is the skull itself; for the lower jaw the upper one. The fracture in the tooth bearing area is always compound. Loose teeth should be conserved if possible; teeth which are loose after three weeks should always be taken out. The mouth should never be closed while the patient is asleep. Nonunion should occur only because of loss of bony substance at the time of injury, never because of necrosis. Nonunion is best treated by bone graft. Ankylosis is generally due to lack of knowledge or carelessness, never to immobilization per se; hence, infection. The dirty mouth is responsible for a lot of trouble; cleanliness is obtainable by frequent washing. Nourishment is very important. All patients on liquid nourishment should be fed every two hours.

Injuries to the Chest

Dr. Thomas G. Orr, Kansas City: By far the greatest number of chest wounds are minor. The most important group of such injuries includes the penetrating wounds. These are always potentially serious and require special attention. To understand open wounds of the thorax, some knowledge of chest physiology is necessary. To know what happens when such a wound is made is essential to direct the proper treatment. An opening into a normal chest produces a sucking wound. This means that air passes in and out of the pleural cavity with each breath. What is the effect of this on the mediastinum? The mediastinum moves or flutters, disturbing the pressure equilibrium in the opposite pleural cavity and interfering with the return circulation of the heart. Vital capacity is important in chest wounds. As a general rule, a wound is poorly tolerated if the vital capacity is low. This is illustrated in the danger of operation on early empyema before any adhesions and walling off of exudate have taken place. Immediate death may result from open pneumothorax. Complications, such as hemothorax and pyothorax, may develop. Penetrating wounds of the thorax should always be considered serious and treated as emergencies. Life may depend on early and efficient treatment. All things being equal, a sucking wound of the chest should be closed as early as possible. Exploration of the thorax may be necessary to stop bleeding, remove foreign bodies or repair lung tissue. If this is done, a proper gas-oxygen apparatus in the hands of a competent anesthetist will furnish sufficient intrapulmonic pressure for safety.

Injuries to the Abdomen

Dr. O. B. Zeinert, St. Louis: The important thing concerning injuries to the abdomen is to decide whether the situation is grave, necessitating immediate surgical intervention, or whether the disturbance is only a temporary one. Some general rules to remember in connection with abdominal injuries as regards the conduct of the case are: 1. Immediate operation during shock is not to be thought of, except in a case of perforation or for the purpose of arresting bleeding. 2. If shock is present and no evidence of hemorrhage can be discovered, cover the patient with blankets and surround him with hot water bottles; administer atropine and saline solution either by rectum or by hypodermoclysis; when the patient reacts to this treatment, attempt a diagnosis. 3. Do not use an ice bag before a diagnosis is made; it masks the picture as morphine does. 4. Give morphine before the diagnosis is established only when it is necessary to tide patient over a time of transportation to a hospital. Even then morphine should not be given unless the doctor has decided on the necessity for operation. Among the signs that indicate the necessity of immediate operation, two are of practical importance: permanent and progressively increasing weakness and frequency of the pulse, and progressive distention of the abdomen together with tenderness and rigidity of the abdominal wall.

Injuries to the Eye

Dr. J. Ellis Jennings, St. Louis: The three classes of injuries to which the eye is exposed are those in which a foreign body becomes embedded in the cornea, those in which the eye is injured by a blow from some heavy object, and those in which a foreign body is driven into the eyeball.

Traumatic Injuries of Genito-Urinary System

Dr. Robert Vinyard, St. Louis: Traumatic injuries of the genito-urinary system are serious because of hemorrhage, extravasation of urine and infection. Complicating abdominal injuries are responsible for the high mortality rate in both open and closed injuries. Hemorrhage and infection are the two most commonly fatal complications. Conservatism in treating injuries of the genital organs should be followed.

Traumatic Emergency Surgery

Dr. J. E. Castles, Kansas City: First in importance in the care of minor injuries is the immediate application of an antiseptic to all open wounds, preferably tincture of iodine. Shock and hemorrhage must be cared for first in the more severe injuries, letting the needed surgery wait until the patient is in an improved condition, unless the waiting lessens his chances of recovery. Fractures should be immobilized before one attempts to move the patient. An early return of the patient to his occupation, or to any light work that he can do, is desirable in all cases.

Blood Transfusion

MEDICAL ASPECTS

Dr. Leo J. Reilly, St. Louis: The advantage of blood transfusion is rapidly gaining wide recognition, especially in primary anemias; as a specific curative measure in the majority of secondary anemias; as a means of diluting toxins in acute infectious and toxic states, and as an immunologic factor when convalescing serum is indicated. The contraindications are acute cardiac disease, arterial sclerosis, pneumonia, hypertension, and any condition having cyanosis as a manifestation.

SURGICAL ASPECTS

Dr. C. A. Vosburgh, St. Louis: Massive hemorrhage still holds first place as an indication for transfusion from a surgical standpoint, but experience has shown that many other conditions are benefited by the procedure. It is my practice to transfuse before operation when the danger of hemorrhage is great and there is grave surgical hazard. Minor surgical operations are often required on persons who have suffered from exhausting disease and in whom even a simple procedure may be attended with grave risk. Preliminary transfusion in such cases is an ideal temporary stimulant and provides for any blood loss.

Treatment of Pernicious Anemia

Drs. A. P. Munsch and C. H. Neilson, St. Louis: In the treatment of pernicious anemia, blood transfusion has given temporary relief and occasionally has been followed by a remission. A series of cases diagnosed as pernicious anemia, in which there was a striking cessation of blood hemolysis, showed a marked improvement of all symptoms. There was a rapid change in the blood picture approaching normal, either coincident with or on account of feeding these patients a so-called liver low fat diet. We have noted in some patients with no desire for food that, following gallbladder drainage according to the Vincent-Lyon method, the patient relished food. After from four to six weeks the blood pictures in these patients have so changed that a few abnormal blood observations are made.

Pernicious Anemia

Dr. Frank I. Ridge, Kansas City: A better name would be "uncompensating or exhausting hemolytic toxemia." The changes in the hematopoietic system, the nervous system, the digestive system and the glandular system are in all probability the result of the same toxin in varying quantities and varying degrees of tissue resistance. Liver function is all essential in the neutralizing of toxins and chemical poisons. Liver is high in cholesterol content; hence the marked improvement with the present-day diet. Inspissated bile has been used by me for several years with very gratifying results. In conjunction with the liver diet the results have been even better. It is suggested that the immediate etiologic factor in pernicious anemia is an unbalanced cholesterol metabolism due either to lack of production by the liver or interference with reabsorption and utilization by the gallbladder.

Intestinal Obstruction in Infants

Dr. M. B. Clopton, St. Louis: Pyloric obstruction forms the largest group. Seventy-six patients were operated on by the Fredet-Rammstedt method; in the first twenty-nine cases there were eight deaths, in the last forty-seven cases two deaths. The proper preparation of the dehydrated, wasted infants with salt solution, dextrose and whole blood gives the worst risk a fair chance. Operations were done under 0.125 per cent procaine hydrochloride in salt solution as an anesthetic. The second group comprised twenty-two cases of intussusception. Seventy-five per cent of all cases of intussusception occur in infants under 1 year of age. Operation during the first twelve hours is without risk and usually those children operated on before twenty-four hours get well; but from this time on the mortality rate mounts. Of the twenty-two patients seen, nine died and thirteen recovered. The next group is made up of the congenital anomalies of the bowel. There is infinite variety to these anomalies. There have been fifteen cases; most of them were hopeless, but in five cases plastic operations have given relief and the infants recovered. There were several cases of imperforate anus, with relief by operation.

The State Care of Crippled Children

Dr. Archer O'Reilly, St. Louis: There are from 10,000 to 12,000 crippled children in Missouri, or four or five per thousand of population. The ratio is greater in the country. There is no great crippled child problem in the cities. The problem is in caring for those of the rural districts. The state is responsible for these children and their restoration is an economic necessity. Twenty-six states have some form of state care. Three combine some care of crippled children with adult vocational training. Nineteen states have no provision for crippled children. Missouri now has a state commission to investigate and propose legislation. A state society for crippled children has been organized also to study the problem and to cooperate in the care of crippled children. The care of the crippled child must be kept out of politics.

Automatic Bladder and Some Other Reflexes Associated with Gross Lesions of the Spinal Cord

Dr. G. Wilse Robinson, Kansas City: The automatic bladder is a bladder over which the patient has no voluntary control, but which empties automatically when a certain and definite degree of distention is reached. Its advantages are obvious in those cases in which the only other method of emptying the bladder is by mechanical means. The automatic bladder is most successfully developed in those cases in which cord lesion is above the lower dorsal segments. The automatic bladder may be developed as a response to somatic stimulation. If the lower mechanisms are set free from central control by severe cord lesions, a stimulation of any reflex below the level of the lesion results in a phenomenon known as the mass reflex, all reflex centers below the lesion participating in the reaction. Scratching the skin over any part of the body surface below the lesion may evoke automatic micturition. The same stimulation may evoke automatic sweating below the level of the lesion.

The General Practitioner and the Specialist

Dr. A. J. Chalkley, Lexington: The great majority of the afflictions in a family can be better taken care of by the well trained, conscientious, general practitioner than by the specialist. The general practitioner is more competent to handle the acute infections, as well as many of the subacute and chronic conditions. He is capable of handling the usual obstetric case, most fractures and other emergencies, and the patient gets a better and more personal service from his family physician than from any other source. There has been too much tendency to have cases rather than patients. If specialists would do a general practice for at least five years and then devote their time and skill to the particular study to which they are best adapted we would have the ideal relationship for closer cooperation between the specialist and the general practitioner.

Leukocyte Count in Acute Surgical Conditions

Drs. M. P. Neal and Dudley A. Robnett, Columbia: The total leukocyte count in acute pyogenic infections is the best known guide to the patient's resistance, while the most important single factor in determining the presence of pyogenic infection is the neutrophil percentage. For the full value of the blood picture one should have the total count and differential enumeration, and reduce these results to a lucid graph or index.

Suppurative Pericarditis

Drs. A. J. Welch and Albert S. Welch, Kansas City: A typical suppurative pericarditis was one of the complications that developed following abortion. The apparent selectivity in localization of the streptococci in the pericardial sac may have been exercised by the host as part of the process of getting rid of the bacteria, rather than that the bacteria themselves had specific affinity for this region.

The Diagnosis and Management of Acute Laryngeal Obstruction

Dr. O. Jason Dixon, Kansas City: Practically all patients under my observation with acute laryngeal obstruction have been moribund when they reached me. Regardless of the condition of the patient with laryngeal obstruction, he is always entitled to a tracheotomy. It is impossible for any one to say which patient will recover. Patients with laryngeal obstruction should not be given any kind of a sedative. They should be kept under constant observation both before and after tracheotomy. Never should a general anesthetic be administered. Seldom is it necessary or advisable to use a local anesthetic. Every hospital should have a sterile tracheotomy set ready for use at all times. Every physician who treats the sick should have a definite idea about performing a tracheotomy. While it ranks as the oldest and most positive life saving operation, tracheotomy is today one of the least understood and most neglected operations in major surgery.

Diseases of the Fundus of the Eye from the Standpoint of the Otolaryngologist

Dr. W. D. Black, St. Louis: Acute and chronic suppurating middle ears with intracranial disease, with or without mastoiditis, frequently give rise to fundus disturbances, principally in the nerve head or retina. Tonsillar infections are not infrequently a cause of disease of the fundus, and many astonishing results from enucleation of the tonsils are recorded. The majority of cases of eye involvement from the standpoint of the ear, nose and throat are the result of involvement of the nasal accessory sinuses.

Significance of the Ureteral Kink and Experimental Clinical Study

Drs. Clinton K. Smith and Nelse F. Ockerblad, Kansas City: In a large series of clinical cases exhibiting pain referable to the upper urinary tract, careful ureteropyelograms have been made in collaboration with clinical observations of the patients while undergoing treatment for obstruction of the ureter. It is our opinion that the ureteral kink is not responsible for pain in these cases, but that the kink is only a by-product of observation in the lower part of the ureter, which is really the pain-producing lesion.

Myoma of the Spermatic Cord

Dr. W. E. Leighton, St. Louis: In December, 1919, I removed a tumor of the spermatic cord which, on examination, proved to be a leiomyoma. From this study I have been able to collect only five cases of true tumors of the spermatic cord and epididymis, which, with the case I here report, make a total of six cases of myoma of the spermatic cord.

Treatment of Intracranial Hemorrhage of the New-Born

Dr. John D. Van Cleve, Malden: Intracranial hemorrhage occurs as one in each ten births. It is the cause of most stillbirths, certain paralyses, and mental retardation seen later in life. Prenatal care offers the best means of prevention. Typing the blood of both father and mother, as well as a Wassermann test, will aid in the expectancy of trouble in advance. Syphilis should be treated throughout pregnancy with arsphenamine and mercury. Better natal care, especially better judgment in the use of solution of pituitary, forceps, and handling the breech and the asphyxiated, will do much toward prevention. The infant should not be forced through too rigid or insufficiently dilated os or vulval ring. Routine taking of the bloodclotting and bleeding time will be helpful in earlier diagnosing of the hemorrhagic types. Subcutaneous, intravenous and intraperitoneal transfusion of whole blood will save lives. Lumbar puncture is the best means for confirming the diagnosis and is a great aid in the treatment. Cisterna puncture must be resorted to where the lumbar route fails. Absolute rest in the crib, feeding expressed breast milk with the Breck feeder, and sufficient water are the most important parts in the general care of the infant during the attack of intracranial hemorrhage.

Compulsory Notification of Puerperal Sepsis or Puerperal Pyrexia

Dr. George Clark Mosher, Kansas City: At a recent conference of state directors of health, in Washington, the question of lessening septic mortality by compulsory notification was assigned to me for investigation. Eighteen state legislatures have passed laws for compulsory notification. In correspondence with health officers I was unable to find a single one where there was any attempt to enforce the law. In fact in only one state, Mississippi, did the number of cases of sepsis reported equal the number of death certificates filed, assigning puerperal sepsis or childbed fever as the cause of death. In England, where compulsory notification is the law, a modification of the law is now proposed demanding reporting also puerperal pyrexia on account of inability of the commissioner of health to carry out the provisions of the law under the terms of puerperal sepsis alone. It is certain that with compulsory notification there will be less reckless and careless work in delivery. On the other hand, if we are to be open to persecution because of unfortunate accidental infection, the question must remain *sub judice*. Our mortality is too high regardless of the comparative death rate of other nations. We must improve our own statistics by education.

Unusually Large Calculus in a Vesical Diverticulum

Drs. Francis M. McCallum and George H. Ewell, Kansas City: In our case a stone weighing 26¼ ounces was removed from a diverticulum in the posterior wall of the bladder. Convalescence was stormy. Death from carcinoma of the prostate, seminal vesicles and bladder occurred four years and eleven months following the removal of the stone.

Gastroduodenal Ulcer Experimentally Produced by Partial Obstruction of the Duodenum

Dr. Leith H. Slocumb, St. Louis: Stagnation in the duodenum plays an important part in the etiology of gastroduodenal ulcer. In the surgical treatment of these lesions great care should be exercised in eliminating any source of duodenal obstruction, whether it be arteriomesenteric in origin or due to pathologic adhesions.

Rubber Bag Inflated in Bladder as Aid to Bladder Surgery

Dr. Clarence S. Capell, Kansas City: This procedure may be of value in two types of cases, vesicovaginal fistula and in some cases of subtotal cystectomy, as for ulcer, tumor or diverticulum. The bladder when opened will not become deflated and sink deep in the pelvis but will stay up in the wound making it easy to manipulate, especially in a fat woman. Through the irrigating cystoscope the degree of distention is under complete control and the light from the cystoscope may be of some value for transilluminating purposes.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

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American J. of Med. Sciences, Philadelphia

173: 597-752 (May) 1927

Heredity in Clinic. L. F. Barker, Baltimore.—p. 597.
*Anesthesia from Standpoint of Surgeon. G. P. Müller, Philadelphia.—p. 605.
*Experiences in Surgical Treatment of Angina Pectoris. E. C. Cutler, Cleveland.—p. 613.
*Carcinoma Developing in Parotid (Stenson's) Duct. J. L. Goforth, Dallas, Texas.—p. 624.
*Medical Treatment of Stomach Ulcer. F. W. White, Boston.—p. 629.
*Chronic Duodenal Ileus. D. P. D. Wilkie, Edinburgh.—p. 643.
*Acute Intestinal Obstruction: Hypochloremia and Other Blood Chemical Changes. W. D. Gatch, H. M. Trusler and K. D. Ayers, Indianapolis.—p. 649.
Jaundice. D. Riesman, Philadelphia.—p. 668.
*Cholecystography and Lyon-Meltzer Test in Congenitally Absent Gallbladder. W. Lintz, New York.—p. 682.
*Finger Puncture Method for Blood Sedimentation Test. J. Cutler, Philadelphia.—p. 687.
Transmission of Pathologic Signs from Diseased to Healthy Hemithorax. N. Michelson, Bedford Hills, N. Y.—p. 694.
Early Craniectomy as Preventive Measure in Oxycephaly and Blindness. H. K. Faber and E. B. Towne, San Francisco.—p. 701.
*General Paresis. N. W. Winkelman and G. Wilson, Philadelphia.—p. 712.

Anesthesia.—Müller urges proper study of patients, proper preparation and the use of local anesthesia to the limit. Following up the postoperative treatment with "floods" of water will reduce the mortality enormously. The principle of anociassociation is applicable to all.

Surgical Treatment of Angina Pectoris.—Cutler states that operations which divide the known sensory pathways in the sympathetic nervous system connecting the heart with the central nervous system give a fairly high percentage of satisfactory results. It is apparent also that the complete Jonnesco procedure achieves part of its success because it interferes with a motor autonomic reflex as well as interrupts the sensory pathways. Whether this operation is unduly extensive, as proposed by Daniélopolu, and whether division of the sensory elements entering and leaving the two lower cervical and the first dorsal ganglions, but without removal of the ganglions, will yield more satisfactory results is still to be proved. The failure of any single procedure to alleviate the pain in all cases leaves the definite impression that much more is to be learned.

Carcinoma of Stenson's Duct.—An instance of carcinoma developing in the parotid duct, in association with a peculiar, calculus-like structure, is recorded by Goforth. The etiologic relationship of lithiasis to malignancy is reviewed. It is suggested that cholesterol plays an important rôle in the development of gallbladder cancer. Metaplasia of epithelium occurs rarely as an atypical reaction to long continued irritation. Malignant transformation of the changed epithelium may follow this.

Medical Treatment of Gastric Ulcer.—In White's opinion a combined medical and surgical routine for gastric ulcer cases is the only logical one: medical for the large group of younger, milder uncomplicated cases; surgical for the chronic, serious resistant cases. The value of surgery is not in treating the whole group, but in curing so many difficult cases.

Chronic Duodenal Ileus.—In reviewing his group of seventy-five cases, Wilkie finds that when the duodenum was found at operation to be obviously obstructed by some more or less gross anatomic abnormality or pathologic process in the root of the mesentery, the results of a short-circuiting operation were excellent. When the duodenum was found dilated, but no very obvious obstructing cause was visible, the short-circuiting operation gave most uncertain results. In many cases an early improvement was followed by recurrence of symptoms. In no case, however, was the patient made worse by the operation.

Acute Intestinal Obstruction.—According to Gatch et al., in acute simple obstruction of the small intestine in which the bowel wall remains intact, death is not due to toxemia. The lethal factors are dehydration, reduction of blood chlorides by vomiting, and starvation. Administration of sodium chloride and water by hypodermoclysis, or by any method which preserves the salt and water balance, will prolong life through the period of starvation. In acute strangulation of the bowel, the factor of toxemia is added. Treatment with sodium chloride and water does not prevent death from this toxemia. The increase in the nonprotein nitrogen of the blood appears to result chiefly from dehydration and a rapid reduction of kidney function. Hypochloremia is an important factor in this mechanism. It is also possible that hypochloremia and dehydration cause increased tissue destruction, which adds to the nitrogenous increase. For these reasons, the administration of physiologic sodium chloride solution, by hypodermoclysis or intravenous transfusion, will be a valuable procedure in the treatment of intestinal obstruction and gastric tetany. Since strangulation of the bowel occurs in most cases of obstruction, the limitations of the treatment are obvious.

Cholecystography in Absence of Gallbladder.—Lintz reports the first case of congenitally absent gallbladder on which cholecystography and the Lyon-Meltzer test were performed. The patient presented, on the duodenal injection of magnesium sulphate, the three typical specimens of bile, including the dark (B) bile, which is supposed to come from the gallbladder.

Blood Sedimentation Test.—A new technic is described by Cutler for performing the blood sedimentation test, requiring a quantity of blood easily obtained by puncture of the finger tip, thus doing away with the necessity of venipuncture. This technic utilizes the graphic method of presentation developed by the author and described previously.

Study of General Paralysis.—Winkelman and Wilson review the records and the necropsy results in sixty-seven cases. An untreated case of general paralysis will show blood and spinal fluid evidences of syphilis. These tests will usually be markedly positive, including pleocytosis, an increased amount of globulin and the paretic gold curve. An untreated case diagnosed general paralysis without strong confirmatory laboratory backing is practically always something else. A certain limited number of cases showing mental symptoms and evidence in the blood and spinal fluid of a paralytic nature may, on microscopic studies of the brains, be proved not to be instances of general paralysis. A brain which shows a gross organic condition such as hemorrhage, thrombosis or gumma rarely shows microscopic evidences of general paralysis. Strong laboratory evidences of syphilis without mental symptoms are not enough to allow the diagnosis of incipient general paralysis.

American Journal of Physiology, Baltimore

80: 485-745 (May 1) 1927

*Gastric Motility in Vitamin B Deficiency in Dog. E. A. Smith, Chicago.—p. 485.
Site of Action of Veratrine on Skeletal Muscle. H. F. Blum and R. W. Watson, San Francisco.—p. 488.
Peristalsis in Dogfish and Ray. W. C. Alvarez, Woods Hole, Mass.—p. 493.
*Chemical Reaction Underlying Coagulation of Blood. A. Wadsworth, F. Maltaner and E. Maltaner, Albany, N. Y.—p. 502.
Rôle Played by Sizes of Constituent Fibers of Nerve Trunk in Determining Form of Its Action Potential Wave. H. S. Gasser and J. Erlanger, St. Louis.—p. 522.
Fate of Dihydroxyacetone in Animal Body. J. Markowitz and W. R. Campbell, Toronto.—p. 548.
Metabolism of Dihydroxyacetone in Pancreatic Diabetes. W. R. Campbell and J. Markowitz, Toronto.—p. 561.
Effects of Dietary Deficiencies on Growth of Certain Body Systems and Organs. J. C. Winters, A. H. Smith and L. B. Mendel, New Haven, Conn.—p. 576.
Effect of Unilateral Nephrectomy on Growth of White Rat. A. H. Smith and M. H. Jones, New Haven, Conn.—p. 594.
Circulatory Minute Volumes of Healthy Young Women in Reclining, Sitting and Standing Positions. A. H. Turner, Boston.—p. 601.

Study of Anion and Cation Effects on Water Absorption of Brain Tissue. J. A. Haldi, J. W. Rauth, J. Larkin and P. Wright, Washington, D. C.—p. 631.
Diurnal Variations in Blood Specific Gravity in Normal Dogs and Humans. G. G. Stebbins and C. D. Leake, Madison, Wis.—p. 639.
Glycogen Content of Frog's Muscle After Injection of Insulin and Its Relation to Contraction. J. M. D. Olmsted and J. M. Harvey, Toronto.—p. 643.
Posterior Pituitary Extract and Cholesterol Metabolism. R. C. Moehlig and H. B. Ainslee, Detroit.—p. 649.
Segmental Innervation of Skeletal Muscles of Frog. S. de Boer, Amsterdam.—p. 652.
Effect of Lactose on Calcium-Phosphorus Balance in Dogs. E. G. Gross, New Haven, Conn.—p. 661.
Heat Liberated by Beating Heart. C. L. Gemmill, Baltimore.—p. 668.
Inactivity and Age as Factors Influencing Basal Metabolic Rate of Dogs: V. M. M. Kunde and M. Nordlund, Chicago.—p. 681.
Quantity of Milk Present in Udder of Cow at Milking Time. W. L. Gaines and F. P. Sanmann, Urbana, Ill.—p. 691.
Synthesis of Vitamin E by Plants Grown in Culture Solutions. H. M. Evans and D. R. Hoagland, Berkeley, Calif.—p. 702.
Question of Localizing Action Currents in Muscle by Needle Electrodes. A. Forbes and A. Barbeau, Boston —p. 705.
Changes in Clotting Time of Blood of Cats as Result of Exercise. F. A. Hartman, Buffalo.—p. 716.
Mechanical Efficiency of Mammalian Heart. R. K. Lambert and A. H. Rosenthal, New York.—p. 719.
Influence of Experimental Hypothyroidism on Gastric Secretion. H. C. Chang and J. H. Sloan, Chicago.—p. 732.
Is Thyroidectomy Primary Cause of Arrested Development of Skeletal Muscle in Cretin Sheep? E. D. Simpson, Ithaca, N. Y.—p. 735.

Gastric Motility in Vitamin B Deficiency.—Smith asserts that dogs which have lost their appetite for vitamin B deficient diets and which show initial symptoms of beriberi have normal types of gastric hunger peristalsis.

Chemical Reaction Underlying Blood Coagulation.—A process of chemical catalysis in which the ionized calcium salts function as the catalyzer under the accelerating influence of contact is described by Wadsworth et al. which not only may explain the mechanism of coagulation, but suggests an approach to the study of the relationship of various proteins of the blood to the lipoids within the cells in the adaptative processes of nutrition and immunity, and possibly also of cellular pathologic changes.

Annals of Clinical Medicine, Baltimore

5: 833-911 (March) 1927

*Splenic Neoplasms: Forty Cases. E. B. Krumbhaar, Philadelphia.—p. 833.
*Anemia in South. J. H. Musser and W. R. Wirth, New Orleans.—p. 861.
*Diphtheria Toxoid as Immunizing Agent. J. G. FitzGerald, Toronto.—p. 870.
Cancer of Lower Bowel. F. B. Cross, New York.—p. 878.
*Multiple Symmetrical Gangrene of Fat of Abdominal Wall in Alcoholic Neuritis. L. M. Warfield, Milwaukee.—p. 884.
Psychoneuroses. F. R. Starkey, Detroit.—p. 888.
Multiple Sensitization in Bronchial Asthma. G. T. Brown, Washington, D. C.—p. 893.

Splenic Neoplasms.—In 6,500 autopsies studied by Krumbhaar, forty neoplasms of the spleen were encountered in a total of 930 primary and, 1,234 secondary tumors. Of the forty neoplasms, six were primary and thirty-four secondary. Two were benign (angiomas); the other four primary tumors were sarcomas, one being a lymphosarcoma. Of the thirty-four secondary tumors, twelve were some form of sarcoma, one a myeloma and twenty-one carcinoma. Of the secondary carcinomas, the primary site was in the breast in seven cases, the stomach in five, the pancreas in three, the prostate in two and the esophagus, appendix, lip and penis in one each.

Anemia in South.—The thesis is advanced by Musser and Wirth that anemia is more prevalent in the South than in the North. This anemia is of the secondary type. Possible explanations are offered for this observation. Pernicious anemia, a definite entity, is not seen as frequently in the South as it is in the North.

Diphtheria Toxoid as Immunizing Agent.—FitzGerald states that diphtheria toxoid appears to be preferable to toxin-antitoxin as an immunizing agent. He encourages vaccination against diphtheria during the first six or eight years of life rather than later.

Fat Gangrene in Alcoholic Neuritis.—In Warfield's case, multiple symmetrical gangrenous areas involved the abdominal subcutaneous skin and fat. It was a case of severe alcoholic neuritis, adiposity, endocrinopathy (pituitary) and moderate hypertonia.

Archives Physical Therapy, X-Ray, Radium, Omaha

8: 163-220 (April) 1927

Infections of Seminal Ducts. H. C. Rolnick, Chicago.—p. 163.
Physical Therapy and Orthopedic Surgery. P. H. Kreuscher, Chicago.—p. 175.
Electrophysiotherapy in Industrial Wounds. F. H. Walke, Shreveport, La.—p. 178.
Treatment of Colle's Fracture by Diathermy and Other Methods. F. H. Ewerhardt, St. Louis.—p. 186.
Endocrines and Physiotherapy. M. Kern, Chicago.—p. 191.
Treatment of Infectious Arthritis. W. A. Johnston, Dubuque, Iowa.—p. 196.
Diathermy in Pneumonia. L. M. Otis, Celina, Ohio.—p. 202.

8: 221-278 (May) 1927

Physical Energies in Treatment of Tubercular Peritonitis. A. D. Willmoth, Louisville, Ky.—p. 221.
Static Electricity. N. E. Titus, New York.—p. 229.
Physical Therapy. J. E. G. Waddington, Detroit.—p. 237.
Heliotherapy in Chest Diseases. J. J. Singer, St. Louis.—p. 240.
Physical Therapy in Chronic Lumbar Pain. J. E. Rueth, Milwaukee.—p. 242.
Physical Therapy in Treatment of Acute Trauma to Joints. A. J. Weber, Milwaukee.—p. 246.
Physical Therapy in Orthopedic Surgery. A. O'Reilly, St. Louis.—p. 252.
Autocondensation in Hypertension. C. F. Voyles, Indianapolis.—p. 255.
Ultraviolet Ray in Dentistry. F. W. Lake, Boston.—p. 259.

Boston Medical and Surgical Journal

196: 721-762 (May 5) 1927

Fibromatosis of Pelvic Colon. P. P. Johnson, Beverly, Mass.—p. 721.
Disseminated Sclerosis with Syphilis. H. G. Wolff, Boston.—p. 723.
Jewish Opinions Regarding Postmortem Examinations. J. Gottlieb, Boston.—p. 726.
Autopsies on Jews and Gentiles. E. P. Joslin, Boston.—p. 728.
*Leukemoid Blood Picture in Syphilis. R. C. Larrabee and N. Sidel, Boston.—p. 730.
Medical Program for Private Enterprise and Cooperative Community Organization. H. P. Greeley, Madison, Wis.—p. 731.
Anomaly of Bile Ducts. I. J. Walker, Boston.—p. 733.

Leukemoid Blood Picture in Syphilis.—A case of syphilis with a leukemoid blood picture is reported by Larrabee and Sidel. On admission it was considered as a probable myelogenous leukemia, but the roentgen ray and Wassermann reports led to the correct diagnosis. Intensive antisyphilitic therapy was instituted and recovery resulted. This report is additional evidence showing that a leukemoid blood picture does not necessarily mean true leukemia.

Colorado Medicine, Denver

24: 101-132 (April) 1927

Tuberculosis in Colorado. H. Sewall, Denver.—p. 104.
Kahn Precipitation Test for Syphilis: Six Hundred Tests. C. W. Maynard, Pueblo.—p. 111.
Relativity of Ray Therapy. B. E. McGovern, Colorado Springs.—p. 116.
Restoring Function of Abdominal Organs by Operations. J. Andrew, Longmont.—p. 118.

24: 133-160 (May) 1927

Newer Aspects of Hepatic Medicine. W. A. Campbell, Jr., Colorado Springs.—p. 136.
Treatment of Neoplasms by Blair Bell Method. W. W. Haggart, Denver.—p. 143.
Diseases of Animals Communicable to Man. E. R. Mugrage, Denver.—p. 148.

Endocrinology, Los Angeles

11: 1-96 (Jan.-Feb.) 1927

*Iodine and Exophthalmic Goiter. K. Petrén, Lund, Sweden.—p. 1.
Asserted Nonexistence of Age Involution of Thymus. J. A. Hammar, Upsala, Sweden.—p. 18.
Parathyroid and Broken Bones. G. H. French, Herrin, Ill.—p. 25.
*Latent Diabetes. P. Escudero, Buenos Aires.—p. 27.

Iodine and Exophthalmic Goiter.—Petrén's experience substantiates the reports of the favorable effect that iodine exerts on the symptoms of exophthalmic goiter, on the basal metabolism and on the pulse rate, both of which are often decreased during the treatment. He uses compound solution of iodine, 5 per cent, in varying dosage, from 3 to 30 drops, once, twice or thrice daily. His experience is that roentgen-ray treatment has little or no influence on the height of the basal metabolism. He is not convinced that by the administration of iodine these patients have received any permanent benefit.

Latent Diabetes.—Escudero has devised a food for so-called hidden cases of diabetes, involving the functional exhaustion of the pancreas. For ten days the patient receives a daily meal composed of 6 Gm. of carbohydrates and 1 Gm. of protein, each, per kilogram of body weight, and the fat necessary to form a diet sufficient for the age, weight and social conditions. After this, the fasting blood sugar content is determined. In negative cases there is no rise in blood sugar content. In positive cases, the Escudero test produces a rise in blood sugar content and there is a fasting hyperglycemia.

Florida Medical Association Journal, Jacksonville

13: 224-253 (April) 1927

Proceedings of Fifty-Fourth Annual Meeting.

Georgia Medical Association Journal, Atlanta

16: 151-186 (May) 1927

County, District and State Medical Associations. C. L. Ayers, Toccoa.—p. 151.
Acute Suppurative Otitis Media. S. J. Lewis, Augusta.—p. 153.
Utility of Nonsurgical Biliary Drainage in Chronic Infectious Arthritis. G. M. Niles, Atlanta.—p. 158.
Renal Tuberculosis. J. H. Hendry, Bainbridge.—p. 159.
Treatment of Diabetes Mellitus. H. I. Reynolds, Athens.—p. 161.
Treatment of Gunshot Wounds of Abdomen: Sixty-Nine Cases. C. Bivings, Atlanta.—p. 166.

Journal of Bacteriology, Baltimore

13: 235-314 (April) 1927

Viability of Bacteria in Aqueous Suspensions. C. E. A. Winslow and O. R. Brooke, New Haven, Conn.—p. 235.
Fallacious Tendencies in Bacteriologic Taxonomy. I. C. Hall, Denver.—p. 245.
Bacterial Morphology. J. F. McDonald, J. T. Little and E. Ruckensteiner, Omaha.—p. 255.
Destruction of Acetyl-Methyl-Carbinol by Members of Colon-Aerogenes Group. F. S. Paine, Iowa City.—p. 269.
Serologic Classification of Fusiform Bacilli. P. L. Varney, St. Louis.—p. 275.

13: 315-377 (May) 1927

*Urea Splitting Bacterium Found in Human Intestinal Tract. J. V. Cooke and H. R. Keith, St. Louis.—p. 315.
Aerobic Bacteria Commonly Concerned in Decomposition of Cellulose. L. A. Bradley and L. F. Rettger, New Haven.—p. 321.
Thermotolerant Organisms as Cause of So-Called Pin-Point Colonies. A. C. Fay, Manhattan, Kan.—p. 347.

Urea Splitting Bacterium in Intestinal Tract.—The characteristics of a micro-organism commonly found in the intestinal tract of infants and older children, and having exceptional power of splitting ammonia from urea, are described by Cooke and Keith. The name *Bacterium ammoniagenes* is suggested for it.

Journal of Experimental Medicine, Baltimore

45: 753-935 (May 1) 1927

Experimental Bone Marrow Reactions: III. Polycythemia, Normoblastosis, and Erythrocytic Hyperplasia of Bone Marrow Produced by Gum Shellac. G. L. Muller, Boston.—p. 753.
Effect of Gum Shellac Solution on Surface Tension of Rabbit Serum. J. M. Hayman, Jr., Boston.—p. 771.
*Oroya Fever and Verruga Peruana: VIII. Experiments on Cross Immunity. H. Noguchi, New York.—p. 781.
Study of Pneumococci Isolated from Horses Undergoing Pneumococcus Immunization. A. B. Wadsworth and G. M. Sickles, Albany, N. Y.—p. 787.
*Kobayashi Epidemic Encephalitis Virus and Virus of Rabies. E. V. Cowdry, New York.—p. 799.
Occurrence of Degraded Pneumococci in Vivo. H. A. Reimann, New York.—p. 807.
*Virus of Foot and Mouth Disease: III. Resistance to Chemicals. P. K. Olitsky and L. Boëz, Strasbourg, France.—p. 815.
Id.: IV. Cultivation Experiments. P. K. Olitsky and L. Boëz, Strasbourg, France.—p. 833.
Oxygen Poisoning: In Mammals. C. A. L. Binger, J. M. Faulkner and R. L. Moore, New York.—p. 849.
Id.: In Cold Blooded Animals. J. M. Faulkner and C. A. L. Binger, New York.—p. 865.
Bacteriophage of d'Hérelle: VII. Particulate Nature. J. Bronfenbrenner, New York.—p. 873.
Id.: VIII. Mechanism of Lysis of Dead Bacteria in Presence of Bacteriophage. J. Bronfenbrenner and R. Muckenfuss, New York.—p. 887.
Bacterium Lepisepticum Infection: Its Mode of Spread and Control. L. T. Webster and C. Burn, New York.—p. 911.

Cross Immunity Between Oroya Fever and Verruga.—Nine monkeys (*Macacus rhesus*) and a chimpanzee which had recently recovered from an infection with the Oroya strain of *Bartonella bacilliformis* were tested by Noguchi for immunity against the verruga strain of *Bartonella bacilliformis*, as well as against the homologous strain. Complete immunity to both strains was demonstrated. The result establishes the identity of the strains, and is in agreement with the result of comparative serologic study.

Kobayashi's Encephalitic Virus is Rabies Virus.—Since the symptoms produced in experimental animals by the encephalitic virus of Kobayashi and by the virus of rabies are similar, and are accompanied by lesions which are indistinguishable, and since a cross immunity is demonstrable between the two viruses, the conclusion is advanced by Cowdry that the specimen of so-called encephalitis virus isolated by Kobayashi is in reality a specimen of rabic virus.

Virus of Foot and Mouth Disease.—Olitsky and Boëz assert that sodium hydroxide in 1 to 2 per cent solutions is an effective virucide. This fact and the cheapness of the agent suggest its use in field practice as a disinfectant.

Journal of Preventive Medicine, Baltimore

1: 279-381 (March) 1927

Scarlet Fever Isolation. P. M. Holst, Oslo, Norway.—p. 279.
*Hemolytic Streptococci in Upper Respiratory Tract of Scarlet Fever Convalescents J. E. Gordon, Chicago.—p. 289.
Statistical Relations Between Mortality in Infancy and in Later Life. R. Jordan, New Haven, Conn.—p. 303.
Id. I. S. Falk, Chicago.—p. 311.
*Seasonal Prevalence of Diphtheria, Measles and Scarlet Fever in Different Latitudes. G. E. Harmon and R. G. Perkins, Cleveland.—p. 327.

Scarlet Fever Carriers.—Gordon asserts that the severity of scarlet fever in a measure influences the time that hemolytic streptococci remain on the mucous surfaces of the upper respiratory tract. Convalescents with positive streptococcus cultures when released from isolation commonly harbor the micro-organisms in the throat only; about one third have hemolytic streptococci in both nose and throat; very few have positive nasal cultures only. Complications definitely affect the convalescent carrier rate. Complications probably account for the chronic carrier condition in most instances. Consideration should be given to the practicability of a revision of existing isolation regulations for scarlet fever, permitting a variation in isolation time depending on negative cultures for scarlet fever streptococci.

Seasonal Prevalence of Diphtheria, Scarlet Fever and Measles.—Harmon and Perkins show that the peak of seasonal prevalence of diphtheria, measles and scarlet fever in the United States occurs from one to three months earlier in the South than in the North. In the case of diphtheria and scarlet fever, the points of minimum prevalence occur in the South earlier than in the North. The analysis of the material on which their paper is based would seem to supply additional evidence in support of the view that latitude has an effect on the seasonal distribution of the prevalence of the three diseases considered.

Journal of Urology, Baltimore

17: 469-523 (May) 1927

Cystography in Diagnosis of Tuberculosis of Genito-Urinary System. N. Blaustein, New York.—p. 469.
Cystometric Bladder Pressure Determinations. D. K. Rose, St. Louis.—p. 487.
Traumatic Rupture of Bladder and Urethra. W. C. Stirling, Washington, D. C.—p. 503.
Patent Urachus Opening Through Solitary Ulcer of Bladder. D. A. Brown, Madison, Wis.—p. 509.
Congenital Urinary Incontinence with Patent Urachus, Double Uterus and Double Vagina. J. Z. Mraz, Oklahoma City.—p. 513.
*Funiculitis. C. R. O'Crowley, Newark, N. J.—p. 515.

Funiculitis Following Appendectomy.—O'Crowley reports a case of suppurative funiculitis following an operation for acute appendicitis.

Laryngoscope, St. Louis

37: 235-312 (April) 1927

Roentgen-Ray Study of Movements of Tongue, Epiglottis and Hyoid Bone in Swallowing. H. P. Mosher, Boston.—p. 235.
Congenital Occlusion of Choanae: Two Cases. W. T. Garretson, Detroit.—p. 263.
Local Anesthesia in External Operations on Nasal Accessory Sinuses. R. Harris and W. L. Simpson, Memphis, Tenn.—p. 269.

Removing Cerumen from Ear by Irrigation C. Kaplan, New York —p 275.
Sponge Packs in Ozena. B Freudenfall and S Stein, New York —p 277.
Keratosis of Vocal Cord Followed by Malignancy. D. H Jones, New York —p 279.
Ulceration and Stenosis of Larynx in Typhoid. J. R. Davies, Jr., Philadelphia —p 281
Newer Tests for Hearing E P Fowler, New York.—p 285.
New Instrument for Placing Sutures in Tonsil Fossa. W. A. Wells, Washington, D C —p 299
Lung Abscess Following Tonsillectomy. J. D. Whitham, New York —p 304.

Medicine, Baltimore

6: 143 339 (May) 1927

Hypotension. A. Friedlander, Cincinnati —p 143.

Michigan St. Med. Soc. Journal, Grand Rapids

26: *279 350 (May) 1927*

Truth, Whole Truth and Nothing but Truth R. McNair, Kalamazoo. —p 279
Therapeutics in Premedical Education. A C Curtis, Ann Arbor —p 283.
Diaphragmatic Hernia R S Morrish and C D Chapell, Flint —p 290.
*Fragilitas Ossium Hereditary Aspect M S Rosenblatt, Detroit —p 292.
*Postoperative Pulmonary Atelectasis F J Smith and E. C Davidson, Detroit —p. 295
Word Blindness Difficulty in Reading in School Children. F. P. Currier, Jr, and M Dewar, Grand Rapids —p 300
Oral Administration of Glucose J H Dempster, Detroit —p 304.
*Radium Treatment of Thyrotoxicosis R E Loucks, Detroit —p. 305.
Two Cases of Tularemia in Michigan. E L Compere, Jr, and J. H. McMillin, Detroit —p 309
Fetal Death During Pregnancy Due to Umbilical Cord Around Neck. R S Siddall, Detroit —p 310
Hyperthyroidism Masked by Diabetic Syndrome. R. J. Hubbell, Kalamazoo —p 311

Hereditary Fragilitas Ossium.—A case of hereditary fragilitas ossium is reported by Rosenblatt, with the family tree extending through four generations and with the progress through one fracture In this family, brittle bones have not skipped a generation Practically all members have had this symptom; several have had blue sclera and deafness. Unlike the observations of Key, blue sclera were not dominant; and members not having this condition had fragile bones.

Postoperative Pulmonary Atelectasis.—Smith and Davidson report seven cases in which pulmonary atelectasis was recognized as a complication of abdominal operative procedures. The clinical course in these patients has followed the usual rule of a sharp onset within twenty-four or forty-eight hours after an abdominal operation, with a few days of decided thermal reaction, tachypnea and tachycardia, the patients showing slight cyanosis, and unilateral pulmonary consolidation, with displacement of the heart toward the affected side. Prompt recovery took place in all. The course was rapid in evolution and was entirely unlike either lobar or bronchopneumonia. The constitutional reaction of the patient did not parallel the extent of involvement of lung tissue

Radium Therapy in Thyrotoxicosis.—Loucks regards radium as being almost a specific in the treatment of toxic goiter.

Military Surgeon, Washington, D. C.

60: 253 380 (March) 1927

Medical Tactics of Joint Army and Navy Operations W L Mann and A D. Tuttle —p 253
Bone Grafting for Mandible Defects R. H Ivy and B M Fpes —p 286.
Classification of Small Medical Library J M Phalen and F. H Garrison —p 294
Army Medical Department in War of 1812. J D Edgar —p 301.
Fracture of Patella. J W Davis —p 314
Army's Field Medical Records A G Love —p 319
Making "Devil Dogs" Fit to Bite C V Rault —p 326
Two Patient One Horse Litter Cart J P. Fletcher —p 329.

60: 381 512 (April) 1927

Surgical and Evacuation Hospitals. C C McCornack —p 381.
Sanitation of Panama Canal Zone W P Chamberlain p— 397.
Fly Trap Stand H B McMurdo —p 423
Myocardium in Physical Examinations G W Cooper —p 425
Spondylolisthesis in Males H C Maxwell —p 438.
Dreyer Method for Determination of Physical Fitness J. M Swan and F H Evans —p 442
Recollections of Old Medical Officers H. C Yarrow —p 449

60: 513 643 (May) 1927

Related Factors in Diseases of Man and Animals. J. G Hardenbergh —p 513
Acute Nephritis in Soldiers on Active Duty. N. M Keith —p 529.
Emergency Splinting of Fractures for Transport N. T. Kirk —p 532.
Chastity of Young Men P. M Ashburn —p 541.
"Bifocalists" at Our Medical Leavenworth. G M. Blech —p 543
Apparatus for Measuring and Recording Reaction Time Periods F. H. Thorne —p 555.
Sciatic Pains: Differentiation. F. P. Moersch.—p. 562.
Immunization of C M. T. C. Trainees at Camp McClellan, Alabama. H F. Lueking —p. 573.
*Treatment of Snake Bite Poisoning. R. F. Metcalfe.—p. 577.
Insect Pests in Texas J. W Sherwood —p 581.
Recollections of Old Medical Officers. H. C. Yarrow.—p 588.

Treatment of Snake Bite Poisoning.—Metcalfe employs the usual method of treatment: application of a tourniquet and neutralization of the poison with potassium permanganate. Following the application of the tourniquet, a crucial incision is made at the site of the bite. The free bleeding washes out a portion of the venom, and this should be followed immediately by injection into the tissues circling the wound of potassium permanganate solution (1:3,000 or 1:5,000), with an ordinary hypodermic syringe, to a depth of about one-half inch If a vacuum cup or similar suction apparatus is available, it is well to apply it to the wound immediately after the crucial incision is made. This treatment is followed by the application to the wound of a moist dressing of 1:5,000 potassium permanganate solution. The patient should be placed in bed and carefully watched for the appearance of systemic symptoms. The tourniquet should not be left in place more than thirty minutes. It should be loosened for a few seconds to allow the reestablishment of the circulation, and to permit a small portion of the venom, which may have remained unneutralized in the tissues of the affected part, to escape into the general circulation. The tourniquet is again tightened and allowed to remain in place for another twenty minutes In the meantime, any small amounts of unneutralized venom which may have reached the general circulation are being eliminated from the body by the body tissues After the tourniquet has been released the second time, it may be discarded if cardiac symptoms or signs of depression are not apparent When the bite occurs on the head or trunk, where a tourniquet cannot be used, a slightly stronger solution of potassium permanganate should be used and suction applied.

Nebraska State Medical Journal, Norfolk

12: 121 160 (April) 1927

Nitrous Oxide Oxygen in Oral Operations. B H. Harms, Omaha —p 121.
Medicine Retrospect and Prophecy. F B Young, Gering —p 124
Tuberculous Peritonitis M. Emmert, Omaha —p 132
Relation of Faulty Nutrition to Heart Disease: 21. V. E Levine, Omaha. —p 134
Pathology of Glaucoma. D D. Sanderson, Lincoln —p 140
Shoulder Dislocation. Applied Anatomy. R. R Best, Omaha —p 142.
Juvenile Tuberculosis. E W. Hancock, Lincoln —p. 143.

12: 161-200 (May) 1927

Diseases of Thyroid C. Andrews, Lincoln —p. 161.
Fracture of Acetabulum with Pyemia. H. F. Johnson, Omaha —p. 165.
Anemias in Childhood H. B Mueller, Lincoln —p. 166
Blood Transfusion M. G Wohl, Omaha —p 169.
*Communities Should Be Made Safe for Maternity. E. C. Sage, Omaha. —p 173
Modern Aspects of Nutrition: Pathology of Malnutrition. V. E Levine, Omaha —p 175.
Shoulder Paralysis Due to Birth Injury (Erbs' Paralysis). H. W. Orr, Lincoln —p 180
Mental Hygiene T. L Houlton, Omaha —p 182.
Menace of Modern Surgery G. O Remy, Ainsworth —p. 184.
Two Cases of Tularemia. A. C. Barry, Norfolk.—p 191.

Maternal Mortality in Nebraska.—Sage makes a rating of the counties in Nebraska according to the maternal mortality per thousand births. In the year 1926, thirty-nine counties did not have maternal mortality. The highest mortality in the remaining fifty-four counties was 20 per cent. Forty-two counties had less than 10 per cent mortality; fifteen counties had less than 5 per cent.

New York State Journal of Medicine, New York

27: 391 447 (April 15) 1927

Tuberculosis Work in Cattaraugus County. A. K. Krause, Baltimore —p 391
Hospitalization Program for Tuberculous D. R Lyman, Wallingford, Conn —p 396

Tuberculosis Work in Cattaraugus County L Brown, Saranac Lake. —p 400
Tuberculosis and General Practitioner E R Baldwin, Saranac Lake —p 401
Six Cases of Trichinosis in One Family M Weiss, Binghamton —p 402
Scheme for Nurse Education A T Lytle, Buffalo —p 404

Occupational Therapy and Rehabilitation, Baltimore

6: 87 174 (April) 1927

Occupational Therapy for Sanatorium Patients D Townsend, Johnson City, Tenn —p 87
Id Educational Principles H M Pollock, New York —p 99
Id In General Hospitals J A Mattison, Sawtelle, Calif —p 105
Id In Private Mental Hospital R M Chapman Towson, Md —p 113
Id Organization of Department E C Slagle, New York —p 125
Id Dynamic. P G Gundersen, White Plains, N Y —p 131
Precautions Necessary with Orthopedic Cases M Taylor, Boston —p 137
Id Combining with Curative Work in Tuberculosis Sanatoriums G Sample, Oteen, N C —p 143
Id Establishment of Clinics in Cooperation with State Department of Reeducation of Disabled Persons M R Emig, Duluth, Minn —p 149
Id In Outpatient Clinic for Mental Cases M Emery, New York —p 155
Waste Material Available in Large Mental Hospital H Theis New York —p 161

Philippine Islands Med. Association Journal, Manila

7: 69 108 (March) 1927

Topographic Distribution of Leprosy in Philippines L E Guerrero, Manila —p 69
Effect of Pulmonary Tuberculosis on Vital Capacity I Concepcion, Manila —p 91
Foreign Bodies in Stomach C D Franco Manila —p 93
Labyrinthectomy A R Ubaldo and V C Alcantara, Manila —p 97.

Physiological Reviews, Baltimore

7· 189 362 (April) 1927

Distribution of Iodine with Special Reference to Goiter J F McClendon Minneapolis —p 189
Question of Cardiac Tonus W J Meek, Madison, Wis —p 259
Current Views of "Internal Secretion" S Vincent, London —p 288
Physiologic Effects of Tropical Climate E S Sundstroem, Berkeley, Calif —p 320

Public Health Reports, Washington, D. C.

42: 923 1029 (April 8) 1927

Physiologic Effects of Abnormal Temperatures and Humidities Literature R R Sayers and S J Davenport, Washington, D C —p 933

Radiology, St. Paul

8: 277 368 (April) 1927

Diagnosis and Prognosis of Neoplastic Lesions of Bones W. C MacCarty Rochester, Minn —p 277
*Exostosis H W Meyerding, Rochester, Minn —p 282
Bone Lesions of Hand and Foot. M Kahn and L C Cohn, Baltimore —p 289
Radium Treatment of Nevi Z A Johnston, Pittsburgh —p 292
*Size of Heart Normally and in Organic Disease J A E Eyster, Madison, Wis —p 300
Correlation of Roentgenograms, Clinical Findings and Blood Pressure in Three Hundred Cases C E Ide, Milwaukee —p 307
Influence of Radiation Quality on Erythema Dose Measured in Physical Units W H Meyer and O Glasser, New York —p 311
Analgesic Property of Roentgen Rays A. U Desjardins, Rochester, Minn —p 317
Gastric Carcinoma Treated by Radium J Muir, New York —p 330
Localization of Foreign Bodies in or About Eye H P Mills and W W. Watkins, *Phoenix, Ariz —p 336*

Exostosis —Meyerding discusses 265 exostoses observed and roentgenographed in 232 patients who were operated on The diagnoses were verified pathologically Excision alone was performed in 61 per cent, and excision and cauterization in 38 per cent Recurrence was noted in 10 per cent About 75 per cent of the patients were heard from after being dismissed from observation, and 83 8 per cent of them reported that they had been cured Five deaths, from one to nine years after operation, were reported, there was no surgical mortality

Size of Heart.—The distribution of certain mensurations made from the frontal and lateral orthodiagrams of 424 human hearts, including normal subjects and cases of chronic heart disease, is presented by Eyster The mensurations include the area and transverse diameter of the frontal plane silhouette, and the retrocardiac space in the lateral plane. The former measurements are compared with the prediction tables previously published It is found that the measurements in cases of clinical hypertrophy differ sufficiently from the normal to justify the conclusion that cardiac mensuration is a valuable method for determining the existence of cardiac hypertrophy, and compares favorably in its degree of precision with other useful methods applied to clinical medicine

Rhode Island Medical Journal, Providence

10: 49 64 (April) 1927

Cesarean Section B C Hirst Philadelphia —p 49
Subconjunctival Method of Cataract Extraction J L Dowling Providence —p 50

10 65 80 (May) 1927

Intestinal Obstruction E B Smith Providence —p 65 .
Presenting Symptoms in Urology H Jameson, Providence —p 67

South Carolina Med. Assoc. Journal, Greenville

23. 335 362 (April) 1927

State Convention Number —p 335

Tennessee State Medical Association Journal, Nashville

19· 271 297 (Feb) 1927

Acute Traumatic Spinal Injuries M B Hendrix Memphis —p 271
Spontaneous Rupture of Heart O S Warr Memphis —p 276
Bilateral Duplication of Ureters and Renal Pelves C F Anderson Nashville —p 281
Deviated Septum S Lawwill Chattanooga —p 284
Diagnosis of Bladder Atony T D Moore Memphis —p 286
Surgery of Nervous System T D McKinney, Nashville —p 295

20· 1 31 (May) 1927

Surgical Cure of Gastric and Duodenal Ulcer W D Haggard Nashville —p 1
Tannic Acid Treatment of Extensive Burns M B Davis Nashville —p 6
Value of Roentgen Ray in Carcinoma of Esophagus C H Heacock, Memphis —p 12
Surgery of Prostatic Obstruction J R Caulk St Louis —p 16
Diagnosis of Bone Sarcoma F D Newell Chattanooga —p 21
Physician—Yesterday, Today and Tomorrow M F Haygood Knoxville —p 24

Virginia Medical Monthly, Richmond

54· 1 68 (April) 1927

Physiology of Liver F C Mann Rochester Minn —p 1
Liver Function from Standpoint of Diagnosis W B Martin Norfolk —p 5
Gall Tract Diseases Roentgen Ray Studies F M Hodges Richmond —p 9
Id Medical Treatment J C Flippin University —p 11
Id Surgical Treatment H H Trout, Roanoke —p 14
Prostatectomy R C Bryan, Richmond —p 20
Management of Ureteral Calculi A I Dodson Richmond —p 25
Prevention of Syphilis D C Smith Charlottesville —p 28
Coronary Occlusion T D Jones, University —p 32
Two Cases of Perforation of Duodenal Ulcer in Hospital J C Motley, Abingdon —p 35
Skull Fractures H L Skinner Ellis Island N Y —p 40
Hemangioma of Liver B F Eckles Richmond —p 46
Puerperal Eclampsia C S Webb Bowling Green —p 50

West Virginia Medical Journal, Charleston

23· 225 280 (May) 1927

Treatment of Endocervicitis L Brady, Baltimore —p 225
Prenatal Care Pelvimetry D L Hill Wickham —p 234
Normal Labor M S Doak, Price Hill, W Va —p 239
Treatment of Malignancies R J Behan Pittsburgh —p 241
Our Obligation to Children of Our Communities A A Shawkey, Charleston —p 244
Cachectic Aphthae (Riga's Disease) C M Bray Morgantown —p 249
Subdeltoid Bursitis C F Fisher, Richwood —p 250
Spinal Column Anomaly Absence of Seven Dorsal Vertebrae A A Shawkey and A C Lambert Charleston —p 252
Hydrophobia Case M S Doak Price Hill —p 255
Right Hemicrania (Trigeminal Neuralgia) of Syphilitic Origin W S Magill Morgantown —p 253
Pelvic Abscess, Suggestive of Cancer A G Rutherford Welch —p 255
Ruptured Appendiceal Abscess W A Simpson and J H McCulloch Oak Hill —p 256
Mercurochrome in Sepsis R H McClung and C F Mahood Alderson —p 257
Mediastinal or Pulmonary Tumor W A Simpson and J H McCulloch, Oak Hill —p 258
Psoriasis Mercurochrome Therapy W S Magill, Morgantown —p 259
Monstrosity D L Hill, Wickham —p 260
Drainage and Irrigation of Empyema and Other Abscess Cavities B Banks Charleston —p 261
Cleft Palate C L Holland, Fairmont —p 262

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

British Journal of Dermatology and Syphilis, London

39 : 141 186 (April) 1927

Pityriasis Rosea of Scalp H Haxthausen —p 141
*Calcium Content of Blood Serum in Skin Diseases G H Percival and C P Stewart —p 144
*Case of Radiodermatitis and Neuritis W J O Donovan —p 149

Calcium Content of Blood Serum in Skin Diseases —The figures recorded by Percival and Stewart do not suggest that in the commoner skin diseases there is, on the whole, any great departure from the normal of the serum calcium content, any variations noted being as common in one direction as in the other

Radiodermatitis and Neuritis —O'Donovan records the case of a woman who contracted a roentgen ray dermatitis and neuritis as the result of having held three heads in succession for epilation

British Medical Journal, London

1 751 782 (April 23) 1927

Epidemiology and Pathology of Poliomyelitis J Collier —p 751
*Congenital Idiopathic Dilatation of Colon Treated by Stretching of Pelvirectal Sphincter A Fullerton —p 753
Testing for Occult Blood in Feces Study of Alleged Fallacies A G Ogilvie —p 755
*Bacterial Toxemia and Cardiac Pain W Gordon —p 756
*Treatment of Carcinoma by Lead Colloids D C T Fitzwilliams —p 758
Comparative Value of Ammonia Coefficient and Ratio Between Free and Ammonia Combined Acid in Urine O C M Davis and F W Rixon —p 758
Perineal and Pelvic Floor Muscles in Second Stage of Labor R K Howat —p 759
*Case of Hydatid Pneumothorax R G Anderson —p 760
Two Cases of Coins in Esophagus K A Lees —p 761
Hematuria Treated by Injection of Serum L J Green —p 761
Death from Hemorrhage from Aorta into Bronchus F Lindsay —p 761

Treatment of Dilated Colon —To maintain the dilatation of the pelvirectal sphincter effected manually, Fullerton introduces into the rectum a pear shaped rubber bag, with a diameter of 1½ inches at its broadest part The bag is then distended with water and the tube leading from its narrow end is wound spirally round a glass rod laid across the child s buttocks and fixed in position The nurse rotates the glass rod at intervals so as to increase the tension of the rubber tube and thus maintain steady pressure on the constricted portion of bowel In a case cited, the bag was passed spontaneously twenty four hours after its insertion The subsequent progress of the case has been extremely gratifying The treatment is based on the hypothesis that there is achalasia of the pelvirectal sphincter It is suggested that this treatment might be tried before grave surgical procedures are resorted to

Bacterial Toxemia and Cardiac Pain —Gordon reports eight cases of cardiac pain due to some epidemic toxemia

Lead Treatment of Carcinoma —In more than sixty cases of malignant disease Fitzwilliams used a colloidal lead preparation containing 0 2 per cent of lead in the form of lead iodide He says that this method of treatment cannot, and does not, attempt to replace operation It is important that the growth should be removed as widely as possible, and the injections then given in the hope that they will attack any small foci which may have started in the internal organs

Hydatid Pneumothorax —Anderson reports a case of rupture of a hydatid cyst of the lung into the pleural cavity

Glasgow Medical Journal

107 193 264 (April) 1927

*Osteomyelitis in Childhood W Rankin —p 193
Gonorrhea L W Harrison —p 201

Osteomyelitis in Childhood —Rankin suggests that the dead bone be removed early Then the shaft or the half next the infected end may easily be twisted out at the second or third dressing, after the initial drainage of the focus and guttering of the shaft, as far up as it is infected The part removed is replaced by a sterile glass rod which will approximately keep up the correct length of the limb, while proper extension and plaster of paris or other fixation may be applied so as to attain the same end Then it is possible to get a practically sterile "inner" surface to the new developing shaft, and to mold its form, by suture round the glass rod, so that excessive bone production is avoided When the walls are becoming rigid, the glass rod is removed and the central cavity, constantly packed with antiseptic gauze, becomes smaller and smaller till closure is finally attained without the presence of irregular and infected bone cavities and pockets, such as must result when sequestra are removed piecemeal

Journal of Anatomy, London

61: 267 386 (April) 1927

Evolution of Parallel Sulcus J L Shellshear —p 267
Blood Supply of Hypoglossal Nucleus J L Shellshear —p 279
Nature of Structural Changes in Nerve Endings in Starvation and in Beriberi H H Woollard —p 283
Intracranial and Extracranial Parts of Ninth, Tenth and Eleventh Nerves N Fahmy —p 298
Development of Human Suprarenal M F L Keene and E E Hewer —p 302
Anovular Follicles in Ovaries of Sterile Dingo and Aged Mouse Y Tamura —p 325
Case of Superfetation in Pig A D B Smith —p 329
Case of Right Sided Aortic Arch and Persistent Left Superior Vena Cava L I Hurley and A F Coates —p 333
Two Abnormal Laryngeal Muscles in Zulu L H Wells and E A Thomas —p 340
Arterial Supply to Duodenum F Yule —p 341
Partial Absence of Ulna and Associated Structures A R Southwood —p 346
Unilateral Cryptorchism in Rat W P Kennedy —p 352
Development of Duodenum J I Frazer —p 356
Case of Hydrocephalus in Infant R J Gladstone and H A Dunlop —p 360
Insertion of Pectoralis Minor Muscle J M Yoffey —p 385

Lancet, London

1: 857 906 (April 23) 1927

*Muscular Mechanism of Respiration and Its Disorders C Briscoe —p 857
*Menorrhagia as Symptom of Myxedema H Gardiner Hill and J F Smith —p 862
Possibilities of Operation in Infantile Paralysis A H Todd —p 864
Suppurative Thyroiditis Two Cases L Rogers —p 868
*Advanced Carcinoma of Stomach Two Cases B Turner —p 869
*Cream in Infant Feeding D Paterson —p 870
Two Cases of Bubonic Plague H M Boston —p 870

Action of Respiratory Muscles Modified by Orthograde Position —By adopting the orthograde position, Briscoe says, man has, to some extent, altered the mode of action of his respiratory muscles In animals, the mechanical act of respiration is carried out almost entirely by the diaphragm the bony thorax being more concerned with the support of the weight of the body and in forming a case for the lungs than with expansion of the latter In man, though the diaphragm remains the chief agent, the thorax is freed from its weight supporting function and helps expansion Under certain circumstances which he has described, too great a part of the work of expanding the lungs is transferred to the thorax This involves abnormal work by some of the thoracic muscles, a response which is ontogenetically unnatural to them and which is uneconomical With limits they function without complaint but with greater stimuli they are driven into conditions of persistent and excessive tonus Their protest takes the form of pain and distress These symptoms can be relieved by the removal of the source of the stimulus, or by relieving the stress on the muscle by mechanical means

Menorrhagia as Symptom of Myxedema —As a result of the analysis of the menstrual history in fifty nine cases of myxedema, the following conclusions have been reached by Gardiner-Hill and Smith 1 Myxedema developed before the natural menopause in 56 per cent and after the menopause in 44 per cent 2 When myxedema developed before the natural menopause, menorrhagia was present in 78 per cent of cases 3 Myxedema is a common sequel to the artificial menopause when the latter has been induced for menorrhagia without apparent local cause Fifteen cases are quoted

Suppurative Thyroiditis.—The special interest in the two cases reported by Turner lies in the almost complete lack of symptoms found in either of them. Both patients looked extraordinarily healthy, and there was no wasting or anemia, no anorexia, and only very slight discomfort. Very little could be found on examination. In fact, without the aid of the roentgen ray and the laboratory, diagnosis would have been almost impossible.

Use of Cream in Infant Feeding.—Paterson is of the opinion that quite sufficient fat or cream is present in an ordinary diluted cow's milk feeding without any further additions. Every infant, however, breast-fed or bottle-fed, should be given cod liver oil in small doses from birth for its vitamin content rather than for its food value.

1: 907-956 (April 30) 1927

*Toxemia Due to Anaerobic Organisms in Acute Intestinal Obstruction and Peritonitis. B. W. Williams.—p. 907.
Filtrable Endothelioma of Fowl. A. M. Begg.—p. 912.
*Experimental Goiter Unrelated in Origin to Iodine. R. McCarrison.—p. 916.
Treatment of Fractures of Limbs. M. Sinclair.—p. 920.
Experimental Immunity Against Metazoan Parasites. D. B. Blacklock and R. M. Gordon.—p. 923.
*Blood Sugar Curves in Mental Disorders. R. N. Craig.—p. 925.
Addition to Rehfuss Stomach Tube. E. M. Watson.—p. 927.
Cases of Poliomyelo-Encephalitis. W. A. F. Collis.—p. 927.
Acute Infective Osteomyelitis Treated Conservatively. H. H. Brown.—p. 928.
Case of Trigeminal Neuralgia. J. W. Lloyd.—p. 928.

Nature of Toxemia in Acute Intestinal Obstruction.—The investigation reported on by Williams was begun on the hypothesis that the toxemia in cases of acute intestinal obstruction, whether organic or paralytic, was due, in part at least, to the absorption of *B. welchii* toxin from the stagnant contents of the small intestine. It is not asserted that this is the only toxin present, but it was the only toxin of which evidence was found by the most delicate tests available. The hypothesis is corroborated by the results of a therapeutic test of the use of *B. welchii* antitoxin in cases of acute obstruction and of peritonitis.

Experimental Dietetic Goiter.—A new type of goiter has been produced by McCarrison under experimental conditions in young rats, which is unrelated in its origin to iodine deficiency. It is to be distinguished etiologically, pathologically and epidemiologically from the chronic hypertrophic or adenoparenchymatous type of endemic goiter, and from the diffuse colloid type of endemic goiter. The basal factor in its causation is a diet containing more than 60 per cent of white flour or of vitamin poor carbohydrate and 20 per cent or less of protein with fats and inorganic salts (including iodine) in adequate amounts, but lacking in green vegetables or fruit. The goiter arising in these circumstances is characterized by intense secretory hypertrophy which ultimately leads to exhaustion of more or less of the epitheliums and their replacement by nonsecretory elements and fibrous tissue. These changes may be present without any marked increase in the size of the gland. It seems likely to McCarrison that this type of goiter will be found to occur sporadically among white-flour-eating peoples; that the subjects of its progressive stage will be prone to develop exophthalmic goiter, following such influences as fright, mental worry, pregnancy, lactation and attacks of acute infectious disease, and that the subjects of its retrogressive stage will exhibit greater or lesser degrees of myxedema.

Blood Sugar Curve in Mental Disorders.—The carbohydrate metabolism in ninety cases of mental disorder was investigated by Craig, but a characteristic curve was not found for any of the disorders studied. In anxiety neurosis, however, a failure to return to the original starvation is present in 87 per cent of the cases. In epilepsy and melancholia, an apparent defect in carbohydrate metabolism is present.

Medical Journal of Australia, Sydney

1: 527-560 (April 9) 1927

Interpretation and Significance of Electrocardiograms. E. F. Gartrell.—p. 528.
*Differences Between Infective Larvae of Hookworms of Man. G. M. Heydon.—p. 531.
Healed Dissecting Aneurysm Giving Rise to Appearance of Double Aorta. J. B. Cleland.—p. 538.
Gumma of Interventricular Septum of Heart Giving Rise to Heart Block. J. B. Cleland.—p. 540.
Hysterical Fugue. S. E. Jones.—p. 541.
Acute Postoperative Dilatation of Stomach. G. Brown.—p. 542.
Arsenical Neuritis Treated by Intravenous Injection of Sodium Thiosulphate. T. D. Hughes.—p. 543.
Retrobulbar Neuritis Associated with Sphenoidal and Ethmoidal Sinusitis. J. Flynn.—p. 543.

Differences Between Larvae of Hookworms.—The differences between the mature larvae of *Necator americanus* and *Ankylostoma duodenale* are described by Heydon. They are said to make available a practical method superior to that of worm counts for determining the species distribution. The method may be used to determine the species present in an individual before treating him. This is a matter of importance, since carbon tetrachloride is extremely effective against *N. americanus*, more so than oil of chenopodium. But against *A. duodenale*, a much more difficult worm to eradicate, oil of chenopodium has the higher efficiency and should always be used either alone or in combination with carbon tetrachloride, in spite of its unpleasantness. A procedure recommended for routine work is as follows: The small fecal specimen obtained is divided into two parts and if ova are found in one part, cultures are taken from the other and mature larvae obtained. These are isolated in clean water, fixed and cleared, and finally mounted by the methods described. A single measurement under a two-thirds inch objective of the distance from the esophagus to the middle of the genital rudiment will then separate the genera correctly in well over 95 per cent of cases, provided suitable cultures of the larvae have been made, and they are well nourished. If absolute accuracy in diagnosis is desired, it may be obtained by examination of the buccal cavity; this procedure is nearly as simple as the other, but requires a little practice. Time and labor are saved by examining the larvae alive if a few only are to be looked at from a culture, but not otherwise.

Tubercle, London

8: 353-400 (May) 1927

Differential Diagnosis of Nontubercular Fibrosis of Lungs in Children. C. D. Agassiz.—p. 353
*Treatment of Chronic Tuberculosis with Sulphates of Ceric Earths, Chaulmoogra Oil and Proflavine. C. Milne.—p. 360.
Value of Complement Fixation Test in Diagnosis of Tuberculosis: Relation to Tuberculin Skin Reaction. R. B. M. K. Pai and K. V. Rau.—p. 366.

Treatment of Chronic Tuberculosis.—Milne agrees with Petroff that acriflavine and proflavine have an inhibitory action on the development of tubercle bacilli when these dyes are used in culture mediums. In the former this property is in a dilution of 1 in 50,000 and in the latter, of 1 in 25,000 The dyes as therapeutic agents in experimental tuberculosis are of no value, but instead have a tendency to accelerate the progress of the diseases. All controls outlived the treated animals.

China Medical Journal, Shanghai

41: 185-296 (March) 1927

Is Clonorchis Health Menace in China? F. Oldt.—p. 185.
Hygienic Conditions of Mission Primary Schools in Province of Shantung. C. H. Han.—p. 206.
Health Obligation of Mission Hospitals. K. H. Li —p. 222.
Hospitals and Health. S. H. Chuan.—p. 229.
*Use of Hamster in Diagnosis of Certain Forms of Tuberculosis. J. H. Korns and Y. C. Lu.—p. 234.
*Maternity Problem of China. J. P. Maxwell.—p. 237.
Public Health Problems in Korea, as Shown by Study of Child Mortality. J. D. Van Buskirk.—p. 244.
Child Welfare Clinic. M. T. Ross.—p. 250.
Treatment of Fasciolopsiasis. C. H. Barlow.—p. 253.

Use of Hamster in Diagnosis of Tuberculosis.—Korns and Lu state that the hamster may often serve in the clinical laboratory, especially of a small hospital, as a practical substitute for the guinea-pig.

Maternity Problem in China.—Maxwell urges that special training schools for midwives should be established, well equipped and staffed, which can provide the instruction needed for those whom the government may license. A scheme for a six months' course in midwifery for midwives in training is presented.

Annales de Médecine, Paris

21: 89-168 (Feb.) 1927

*Histologic Study of Experimental Hepatic Cirrhosis. J. F. Martin.—p. 89.
Mediastinal Pleurisy and Bronchiectasis. E. Rist et al.—p. 144.

Study of Histologic Changes in Experimental Cirrhosis of the Liver.—Martin injected seventeen guinea-pigs with manganese chloride. The animals were killed from eight to thirty-five days later. Histologic examination revealed early appearance of parenchymal hepatitis, developing into cirrhosis in less than two months. The successive stages of the pathologic process were as follows: Dilatation of vessels around the portal vein, in limited parts of the liver; then lysis of chondriosomes in cells adjacent to the portal vein or to the periportal sinusoids; later granular, fatty or atrophic degeneration of these cells, followed by a mesenchymal reaction. The latter consisted in periportal and pericellular sclerosis. Finally the destroyed parenchymal particles became enclosed in the sclerotic tissue (cicatricial sclerosis). This detailed study of the subject is provided with seventeen illustrations.

Archives des Maladies du Cœur, etc., Paris

20: 65-136 (Feb.) 1927

Peripheral Circulation and Disturbances in Cardiac Rhythm. A. Luisada. —p. 65
*Action of Calcium Chloride on the Heart. E. Frommel.—p. 85.

Study of the Action of Calcium on the Heart in Animals.—Frommel studied by means of electrocardiograms the changes in cardiac rhythm in rabbits and frogs after intravenous injection of calcium chloride. The animals presented nodal bradycardia, and disturbed intracardiac conductivity, even complete heart block or arrest of the ventricular systole. The experiments were repeated in rabbits in which the vagus was paralyzed by atropine, or was severed. The effect of calcium chloride on the heart was almost the same in these animals as in the healthy animals. Therefore, the rôle of the vagus in the action of calcium chloride is insignificant. The conclusion is that calcium may effect the myocardial fibers directly or by the route of the intracardiac ganglions. The property possessed by calcium of enforcing the cardiac contractions, enhancing the excitability of the heart and reducing its conductivity is analogous to that of digitalis. This may explain why certain authors taught that the action of the two substances was similar.

Comptes Rendus de la Société de Biologie, Paris

96: 369-440 (Feb. 18) 1927. Partial Index

*Rapidity of the Disappearance of Insulin from the Blood. L. Képinow and S. Ledebt-Petit Dutaillis.—p. 371.
*The Tension of the Cerebrospinal Fluid in Asphyxia. L. Binet and R. Piedelièvre.—p. 375.
*Lesions of the Eye and Renal Metabolism. A. Ozorio de Almeida.—p. 383.
Urinary Secretion in Animals with Ureterovenous Anastomosis. A. Ozorio de Almeida.—p 385.
*Factors of the Susceptibility of the Spleen to Epinephrine. A. Tournade and M. Chabrol.—p. 390
Influence of Age and Inanition on Local Edema. E. Schulmann and J. Marek.—p. 401.
Fermentation of Glucose by Beer Yeast. E. J. Bigwood and A. Wuillot. —p. 410.
Origin of the Blood Sugar. E. J. Bigwood and A. Wuillot.—p. 414.
*The Proteidic Sugar of the Blood. E. J. Bigwood and A. Wuillot.—p. 417.
*Induced Hyperglycemia and Insulin of the Pancreatic Blood. E. Zunz and J. La Barre.—p. 421.
*Blocking of the Reticulo-Endothelial System, Foreign Serum and Precipitins. N. G. Collon.—p. 427.
*Hypoglycemia in the Course of Trypanosomiasis. A. Dubois and J. P. Bouckaert —p. 431.
The Direct Hijmans van den Bergh Reaction. M. J. Steenhout and J. P. Bouckaert.—p. 438.

Rapid Disappearance from the Blood of Insulin Injected Intravenously.—Képinow and Ledebt-Petit Dutaillis removed half of the total blood in a dog, and replaced it by the same amount of blood removed from a dog which had received an injection of insulin two minutes before. There was no reduction in the blood sugar in the recipient dog. The fact testifies to a rapid disappearance of insulin from the blood. It is probably retained in tissues rich in glycogen, as the liver or the muscles; whence it is gradually released into the blood. In Fisher and Noble's experiments the injected insulin was sometimes eliminated in its entirety in the urine.

Variations in Tension of the Cerebrospinal Fluid in the Course of Asphyxia.—Binet and Piedelièvre produced asphyxia in dogs by obstructing the trachea. An increase in the tension of the cerebrospinal fluid was manifest. By the fourth minute of asphyxia the tension had reached four times the normal. On artificial respiration, the hypertension was succeeded by hypotension, lasting for about fifteen minutes.

Rôle of the Kidney in Certain Lesions of the Eye.—Ozorio de Almeida connected both ureters with the femoral vein in a dog, thus causing the total urine to pass into the blood stream. The animals developed a purulent conjunctivitis; they died in from two to four days with signs of uremia, such as develops after bilateral nephrectomy. It is probable that toxic substances elaborated by the kidneys, acting alone or with toxins produced by other organs, caused the lesions of the eye. This may be the origin of ocular lesions occurring in patients with urinary disease. Further researches revealed an increase of urine in animals with ureterovenous anastomosis. There was no glucose or albumin in the urine. The pressure of the urinary secretion remained lower than that of the blood.

Probable Factors of Particular Sensitiveness of the Spleen to Epinephrine.—Tournade and Chabrol refer to Abderhalden and Gelhorn's experiments proving that certain amino-acids are able to enhance considerably the action of epinephrine. Further, Loeper, Decourt and Lesure have found a large amount of these amino-acids in the tissue and blood of the spleen. Evidently the sensitiveness to epinephrine is the result of the morphologic as well as of the biochemical condition of the spleen.

The So-Called "Proteidic" Sugar of the Blood.—Bigwood and Wuillot could not detect fermentiscible proteidic sugars, of the glucosid type, in the blood plasma.

Insulin of the Pancreatic Venous Blood and Induced Hyperglycemia.—Zunz and La Barre conclude from their study on dogs, that hyperglycemia induced by intravenous injections of glucose brings about an increase of insulin in the pancreatic venous blood. Researches are being carried on to explain the mechanism of this compensatory hyperinsulinemia.

Blocking of the Reticulo-Endothelial System, Elimination of Foreign Serum and Formation of Precipitins.—The reticulo-endothelial system in rabbits was blocked with trypan blue and India ink. The animals were then injected with human blood serum. The human serum in the animals' blood was measured two days later. Blocking of the reticulo-endothelial system had not impeded the elimination of the foreign serum or the formation of precipitins.

Hypoglycemia in the Course of Experimental Trypanosomiasis.—Dubois and Bouckaert found a notable hypoglycemia in rabbits and mice with experimental trypanosomiasis. The rôle of this phenomenon in the clinical picture of the disease appears to be insignificant. The authors intend later to discuss the physiologic mechanism of the hypoglycemia.

Journal de Radiologie et d'Électrologie, Paris

11: 81-128 (Feb.) 1927

Anatomic Cure of Tuberculous Osteitis. A. Delahaye.—p. 81.
Cancer of the Penis in Tonkin. A. Le Roy Des Barres and P. Heymann. —p. 89.

11: 129-192 (March) 1927

*Roentgenotherapy of the Sympathetic System in Skin Diseases. J. Gouin and A. Bienvenue.—p. 129.
Lateral Roentgenograms in Congenital Dislocation of the Hip. Regner and Le Floch.—p. 167.
Intracranial Cyst in the Frontal Region. Tarnauceanu.—p. 174.
Tarsal Scaphoiditis in Young Children. D. Galdan.—p. 175.

Roentgen-Ray Treatment of the Sympathetic System in Skin Diseases.—Gouin and Bienvenue used roentgenotherapy in 150 cases in which the skin disease was associated with disturbances of the sympathetic system. Good results were obtained in patients in whom pruritus was the predominant symptom. In nineteen cases of lichen planus, the pruritus vanished within one or two days after a single exposure, the eruption in three weeks. The treatment proved to be effectual in fourteen cases of polymorphic erythema and in two of parapsoriasis. Other measures or special diets were not employed. In twenty-four cases of psoriasis, the roentgenotherapy resulted in disappearance of the pruritus, while the eruption was not influenced. From 4 to 5 Holzknecht units are applied to the upper part of the spine at one sitting. Sometimes the lower part of the spine is also exposed. In certain cases, the sitting must be repeated Local or general *reactions were never observed with this method.*

Paris Médical

63: 421-456 (May 7) 1927

Nutritional Diseases in 1927. F. Rathery and R. Kourilsky—p. 421.
*Biochemical Changes in Vitamin C Deficiency. G Mouriquand and A. Leulier—p 436
*Rôle of Chlorine in Nutrition L. Ambard and F. Schmid—p. 443.
*Basal Metabolism in Diabetes L Hédon—p 446
Rôle of Glutathione in Phenomena of Oxide Reduction L Binet—p 452.

Biochemical Changes Associated with Vitamin C Deficiency.—Mouriquand and Leulier studied the biochemical changes in guinea-pigs with experimental vitamin C deficiency. In the blood, the p_H and the proportion of water and of sodium chloride as well as that of cholesterol, carbohydrates and urea, were normal. There was an important reduction in iron. In the lungs, the spleen and the liver, the percentage of cholesterol was normal. It was reduced in the suprarenals. The content of epinephrine remained normal. Administration of vitamin C brought about disappearance of all clinical lesions within a few days. Nevertheless defective nutrition of the organism persisted for a long time, in consequence of which the animals presented a feeble resistance to infections; they developed a special "constitution."

The Rôle of Chlorine in Phenomena of Nutrition.—Ambard and Schmid say that the more hydrochloric acid the nervous centers contain, the more easily are they irritated. Therefore a salt free diet, rendering the nervous centers less irritable, impairs the response of gastric secretion to alimentary excitation The authors call attention to the fact that patients with dry retention of chlorine gain considerably in weight on a salt free diet. In this condition, with an ordinary diet, the proteins of the body contain an excess of hydrochloric acid. Destruction of the proteins takes place. A salt free diet, on the contrary, produces a notable increase of nitrogen in the organism and gain in weight. Ingestion of a large quantity of salt causes acute nephritis, revealed by a sudden rise of the ureosecretory constant.

The Basal Metabolism in Diabetes.—In patients with grave diabetes, who lose in weight on a diet poor in carbohydrates but rich in proteins and fats, the basal metabolism is increased. The increase may exceed 30 per cent in cases of considerable acidosis (the estimation was based on hourly production of heat per square meter of body surface) In these patients the basal metabolism is greatly reduced if they are treated first with fasting and then given a limited amount of food, so as to combat glycosuria and to increase the tolerance for carbohydrates. The reduction may be more than 40 per cent of the normal. Hundreds of tests of basal metabolism made by Hédon in depancreatized dogs showed an increase reaching 30 per cent of the normal. Evidently suppression of the internal pancreatic secretion is to be held responsible for the disturbances in the basal metabolism.

Revue de Chirurgie, Paris

65: 5-100, 1927

*Results of Sympathectomy in Twenty Four Patients. E Bressot—p. 5.
Diverticulosis of Jejunum and Ileum. H. Godard—p. 22.
Arthritis of the Hip in Osteomyelitis J. Piquet—p. 38.

Results of Periarterial Sympathectomy Performed in Twenty-Four Patients.—In three of the patients, the operation was done on both extremities; in nineteen cases on the brachial artery; in eight, on the femoral artery. The patients were men, most of them aged between 18 and 35. Ether or Schleich's solution was used for anesthesia. In three of nine patients with a typical or attenuated form of Raynaud's disease, the recovery is complete; it has persisted from seven to sixteen months. Notable improvement is manifest in three; slight improvement in one. The operation failed in two A rapid and durable cure was induced in cases of chronic nonsyphilitic ulcers of the extremities. The results were encouraging in two cases of retarded consolidation of fracture of the leg bones, and in two cases of painful stumps with trophic lesions. The results were negative in cases of perforating ulcer of the foot, in varicose ulcers and in stumps in which pain was the exclusive symptom

Schweizerische medizinische Wochenschrift, Basel

57: 337-360 (April 9) 1927

*Constitution and Infectious Diseases Naegeli—p 337.
Physical Development H. W. Itten—p. 341 C'en
Suggestion in Psychotherapy. A Maeder—p 349
Surgery of Senile Prolapsus. G Bernard—p. 351.

57: 361 384 (April 16) 1927

External and Internal Respiration in Athletics W. Knoll—p 361.
"Female Sex Hormones" E S Faust—p 368
Diuretic Action of Mineral Waters A. Keller Stoppany—p 370
Endothoracic Separation of Pleural Adhesions A Wolowelsky—p 373.
Turpentine Ether Treatment of Bronchitis. W. Lanz—p. 375

Constitution and Infectious Diseases.—Naegeli believes in the variability of viruses. He observed grave superinfections in twelve light cases of influenza caused by a gravely ill man brought into the same room (a total of eleven deaths) In the same epidemic the infections were severe in one part of a regiment and light in the other part, stationed elsewhere. He believes that epidemic encephalitis is different from influenza (in the latter, leukopenia and grave degenerative changes in the leukocytes) and that it is a new disease Leichtenstern's cases of influenzal encephalitis presented large hemorrhages of the brain The mild cases of smallpox in the recent Swiss epidemic differ from true smallpox clinically and hematologically, although there is crossed immunity. The disease should be called variola nova

Pediatria, Naples

35: 456 512 (May 1) 1927

Milk Secretion in Infants S Fabris—p 457
*Leukopenia in Leishmaniasis. G Arena—p 465
Hypodermic Sarcomatosis in an Infant G Lattes—p 476
Pneumococcus Peritonitis B Vasile—p 487
Recovery from Pneumococcus Meningitis in an Infant U Sih—p 492.

Leukopenia in Leishmaniasis.—Arena confirms the leukolytic activity of serum from the majority of kala azar patients. The destructive action is most pronounced against the neutrophilic leukocytes.

Policlinico, Rome

34: 595 630 (April 25) 1927

Enzyme Reaction in Pulmonary Tuberculosis. G Luzzatto Fegiz—p 595
Subtotal Hysterectomy at Term L Urbani—p 599
Heliotherapy with Filters R Bellantoni—p 601

34: 631 666 (May 2) 1927

*Malta Fever and Bacillus Abortus F Bua—p 631
Treatment of Tuberculous Peritonitis with Pneumoperitoneum D Santorsola—p 636
Urethritis V. Simonini—p 639

Malta Fever and Bacillus Abortus.—Bua obtained the same results in malta fever when using cultures of *Bacillus melitensis* or of *Bacillus abortus* for intradermal tests.

Riforma Medica, Naples

43: 217 240 (March 7) 1927

Theory of Diabetes A Luisada—p. 217.
Thrill in Arteriotracheal Grafts P Leone—p 221
Prognosis and Treatment of Uremia F. Russi—p 222
Boveri's Test of the Cerebrospinal Fluid U Beggiato—p 233.

43: 337 360 (April 11) 1927

*Rhinopharyngeal Diseases and the Pituitary. A Salmon—p. 337.
Death from Neoarsphenamine G Benassi—p 339
Serodiagnosis of Syphilis O Sciarra—p. 344.
Clinical Anaphylaxis D. Franceschelli.—p. 346
*Dystrophic Teeth and Congenital Syphilis G. Cirillo—p. 355.
Hemolysis in Typhoid. R. Silvestrini—p. 358
Treatment of Tuberculous Peritonitis with Pneumoperitoneum. D. San-

Rhinopharyngeal Diseases and the Pituitary.—Salmon claims priority as to observations on the occurrence of pituitary syndromes in diseases of the pharynx and nose.

Nevertheless, he appreciates Citello's later clinical observations and experimental work He believes that the coincidence of the symptoms speaks for some influence of the pituitary in diabetes insipidus, obesity and sleepiness, although he does not deny the existence of hypothalamic centers.

Dystrophic Teeth and Congenital Syphilis.—Cirillo thinks that a subject with congenital syphilis may — exceptionally — have normal teeth But he doubts that there are subjects with dystrophic teeth, who have not congenital syphilis.

Rivista di Clinica Pediatrica, Florence

25: 217 288 (April) 1927

*Ultraviolet Rays and Carbohydrate Metabolism U. Ferri —p 217.
*Measuring Body Surface G Frontali —p 241
Apparatus for Aspiration B. Trambusti —p 256
*Surveillance After Intubation. B Trambusti —p. 267.

Ultraviolet Rays and Carbohydrate Metabolism. — Ferri irradiated infants and children with a quartz lamp. He found that moderate doses improve the carbohydrate metabolism, as evidenced by the glycemic curve after administration of carbohydrates or injection of epinephrine. Large doses of rays impair the regulatory mechanism

Measuring Body Surface.—Frontali made direct measurements of the body surface with Bordier's integrator The results differed considerably from du Bois' and still more from Vieroyndt's figures based on weight and length

Surveillance After Intubation. — Thambusti protects the thread to which the tube is attached against biting by wrapping the exposed part in a strip (12 cm. long and 3 cm. wide) of adhesive plaster.

Revista de Medicina y Cirugía de la Habana, Havana

32: 233 296 (April 25) 1927

*Lesions of the Optic Nerve and Pituitary Tumors H Ferrer y Diaz. —p 233
*Rabies in Cuba M R Casabo —p 252
Miliary Tuberculosis in Childhood T. Valledor —p 266

Lesions of the Optic Nerve Caused by Pituitary Tumors.—Ferrer describes seven cases in which optic atrophy was due to pressure on the chiasm by pituitary growths. The patients were women The cases are all comparatively recent, being included among Ferrer's last 4,300 patients. They represent 1 64 in 1,000

Rabies in Cuba.—In Cuba and specially Havana, rabies has increased enormously, according to Ruiz, in the last few years.

Deutsches Archiv für klinische Medizin, Leipzig

155: 1-128 (April) 1927

Gas Metabolism in Thyrotoxicoses P Jagutits —p. 1.
*Sugar Tolerance After Insulin. P. Muller —p 26
Histamine Injection and Urinary Pepsin in Achylia H J. Teschendorf. —p 43.
Liver Extracts in Hypertension E Moller —p 52
Atypical Pneumonias Resulting in Chronic Pneumonia. K Goette —p. 71.
Case of Arrhythmia A Pierach —p 92
Genesis of Pylephlebitis. H Wurm —p. 97
The Second Heart Sound M Hochrein —p 104
"Insulin in Healthy Subjects" W. Fornet —p. 122
Reply. F Zinsser —p 123
Additional Note on Atypical Pneumonia Goette and Hook —p 125.

Sugar Tolerance After Insulin.—Muller concludes that the results of insulin treatment as regards tolerance are similar to those of strict diets and that it does not occasion as much hardship.

Deutsche medizinische Wochenschrift, Berlin

53: 735 780 (April 29) 1927

*Organic Sequelae of Concussion of the Brain H Krisch —p 735.
Allergic Phenomena in Rheumatic Diseases H. Strauss —p 737
Infectious Rheumatism S Graff —p 738 C'cn
*Tumor Formation by Distant Action of Tubercle Bacillus H. Guillery. —p 740
The Roentgenologic Representation F M Groedel —p 741
Protein Treatment in Ophthalmology. K Steindorff —p 744
Treatment of Blepharitis Groenouw —p 745
*Nonoperative Treatment of Strabismus G Abelsdorff —p 746
Unilateral Internal Ophthalmoplegia G Abelsdorff.—p 747.
Practical Neurology. E. Siemerling —p 747.
Disinfection of Bile. R. Kaewel and R. Kühn —p. 750
"Synthalin" Treatment of Outpatients. Von Falkenhausen.—p. 752
Roentgenography of Interlobar Pleura W. Crecelius —p 753
Deep Roentgen-Ray Treatment in Gynecology. K Herold —p 753.
Denatured Alcohol as Beverage and Cause of Death H. Pander —p 756
Need of Decentralization in Roentgenology. O. David —p. 758
Instruction in Roentgenology and Electro Physical Medicine in France Karplus —p. 759.
Medical Impressions from Iceland I. Kroner and K Kroner.—p. 760.

Organic Sequelae of Concussion of the Brain.—Krisch finds that the disturbances of patients of this kind are frequently underestimated, just as it is common grossly to overestimate the damage in compensation hysteria. Loss of consciousness —especially with vomiting—is an important item in the history. Sometimes the loss is only partial or late and difficult to establish. Vasomotor phenomena, forgetfulness, oversensitiveness to sensory stimuli, as well as to alcohol and nicotine, are common symptoms.

Tumor Formation by Distant Action of Tubercle Bacillus.—Guillery induced sympathetic ophthalmia in a rabbit's eye by introducing into the other eye a small amount of living tubercle bacilli enclosed in a reed sac When he used larger amounts of tubercle bacilli, large tumors of tuberculoid structure developed, although the bacilli apparently did not penetrate the sac.

Nonoperative Treatment of Strabismus.—Abelsdorff deals only with concomitant strabismus. If a child over 1 year of age shows convergent squinting, the parents are apt to make one of two mistakes: either they insist on a premature surgical intervention or they decide to wait for spontaneous recovery. Three fourths of these cases are due to hypermetropy which entails increased strain on accommodation The latter is associated with the convergent movement. If there is no amblyopia, the anomaly of refraction should be corrected by eye-glasses. Unfortunately, the squint returns if the child stops wearing them With unilateral amblyopia, the weaker eye should be trained by occluding the healthy eye and, if necessary, by instilling daily one drop of a 1 per cent solution of atropine. Considerable improvement may be obtained in children between the ages of 3 and 5 years. After this, the ability to unite the pictures obtained by both eyes (fusion) should be trained by an apparatus constructed on the principle of a stereoscope. Convergent strabismus should not be operated on before the growth of the child is complete. Divergent strabismus develops between the tenth and twelfth years. More than one half of these patients are myopic and some may be improved by proper eye-glasses The others should be operated on. There is no danger of subsequent overcorrection in the latter case.

Klinische Wochenschrift, Berlin

6: 673 720 (April 9) 1927

Physiology of the Secretion of Urine R. Höber —p 673.
*Toxic Dermatoses and Eosinophilia in Scarlet Fever E Nathan —p 676
Gallbladder Reflexes and Duodenal Tubage K Trommer and F Hempel. —p 678
*Inhibition of Estrus by Thallium A. Buschke et al.—p. 683
*Origin of the Syphilitic Blood Change F. Klopstock —p. 685
Diagnosis of Syphilis in Pregnancy E Philipp et al —p 689.
*Pathogenesis of Progressive Muscular Dystrophy. K Kuré —p 691.
Hunger and Spastic Tendency in Migraine O. Muck —p 693
Unilateral Stiffening of the Spine R. Ehrmann and H Taterka —p 694.
Blood Calcium in Hypnosis M Kretschmer and R Krüger.—p 695
Microdetermination of Levulose S van Creveld —p 697.
"Intravenous Injections in Guinea-Pigs" J Fortner —p 698
*Production of Chicken Sarcoma. H. Laser —p 698
Metabolism of Diphtheria Bacilli. H. Braun and K Hofmeier —p 699
Innervation of the Stomach in Parkinsonism L Hess and J. Faltitschek. —p 699.
Traumatic Ossifying Myositis M Strauss —p 699.
Cancer of the Stomach L Frank —p 700
*Sympathetic Innervation of Nonvegetative Organs E T. Brücke. —p. 703

Toxic Dermatoses and Eosinophilia in Scarlet Fever.—Nathan observed leukopenia in purely toxic erythemas — for instance after neosilverarsphenamine. When the toxic agent produced a dermatitis, a neutrophilic leukocytosis with a considerable eosinophilia developed He points to the analogy of such cases to scarlet fever and believes that the eosinophilia is conditioned by the inflammation of the skin He believes that there is, on the other hand, a relative parallelism between the leukopenia in pure toxic erythemas and in measles

Inhibition of Estrus by Thallium.—Buschke, Zondek and Berman were able to inhibit the estrual cycle in mice by oral administration of thallium.

Origin of the Syphilitic Blood Change.—Klopstock regards the theory of antibodies induced by a combination of organ *lipoids with the proteins of spirochetes as superfluous.* He obtained rapid and striking production of Wassermann reagins by injecting killed spirochetes. Alcoholic extracts of spirochetes are a good antigen for the reaction, but are not sufficient to induce formation of antibodies.

Pathogenesis of Progressive Muscular Dystrophy.—Kuré concludes from his experiments and from histologic investigations that this dystrophy is due to a disturbance of the autonomic innervation of the muscles.

Production of Chicken Sarcoma.—Laser cultivated the spleen of a chicken embryo (18 days old) in the plasma of an animal that was injected intravenously with tar. Inoculation of the third passage (seven days) of this culture caused the growth of a transplantable sarcoma with metastases.

Sympathetic Innervation of Nonvegetative Organs.—Brucke surveys the results of investigations by Orbeli and his collaborators. He regards them as evidence of vegetative innervation of striated muscles, analogous to the autonomic innervation of the heart.

6: 721-768 (April 16) 1927

Lister's Centenary. V. Schmieden—p. 721.
The Nerves of the Capillaries A Krogh—p. 722
Intravenous Anesthesia with Barbital Derivatives R Bumm—p 725.
*Parathyroid Hormone and Blood Clotting. L M. Zimmermann—p 726.
*p_H of Pus and Secretions C. Habler—p 730.
Pseudogonorrheal Monarthritis G. Axhausen—p 732
*Synthalin in Surgical Complications. W. Nissel and E Wiesen—p 734.
Temporary Clamping of Renal Stem A Hubner—p. 736
Healing of Fractures M. Zondek—p. 737.
*Lasègue's Phenomenon in Sciatica O Wiedhopf.—p 739.
*Postoperative Thrombosis K. Boshamer—p 740
*Primary Resection of the Stomach. E Kreuter.—p 742
Serum Proteins After Roentgen Irradiation K. Breitländer and C H. Lasch—p 743.
Action of Yohimbin. S. Loewe et al—p 743.
Treatment of Hearts Containing Bullets R Syller—p. 744.
Age Statistics of Germany. K. Freudenberg—p 748
Survey of Immunity. H. Cohn—p. 751.
Protrusion of Renal Region in Pyelitis M. Landsberg—p. 766
Isacen in Gynecology. A Hirschberg—p. 767.

Parathyroid Hormone and Blood Clotting.—Zimmermann did not see that injections of parathyroid hormone had any influence on the coagulation time in healthy subjects and animals or in cases of jaundice. He is skeptical as to the therapeutic value of calcium in such conditions.

p_H of Pus and Secretions.—Habler confirms the parallelism between the inflammation and the hydrogen ion concentration of the pus. A pus with a p_H above 6 8 is not found in the acute stage of an inflammation.

Synthalin in Surgical Complications of Diabetes.—Nissel and Wiesen report good results, especially in a patient who was refractory to insulin.

Lasègue's Phenomenon in Sciatica.—Wiedhopf refuses to accept Lindstedt's theory of the myalgic nature of sciatica He concludes that in the large majority of cases the roots of the sciatic nerve are affected.

Postoperative Thromboses.—Boshamer found that the amount of antithrombin in the blood is frequently lessened after surgical interventions made under local or ether anesthesia. This causes a relative predominance of thrombin and predisposes to thrombosis.

Primary Resection of the Stomach.—Kreuter finds that primary resection of perforated ulcers of the stomach or duodenum is not more dangerous than palliative interventions

Medizinische Klinik, Berlin

23: 501 538 (April 8) 1927

Diagrosis and Treatment of Influenza C Klieneberger.—p. 501.
Colitis E. Körner and M Schaefer—p 502.
*Hypersensitiveness. J. W. Samson—p 506.
Roentgen Ray Diagnosis of Gastritis. K. Gutzeit.—p. 507.
Dietotherapy on a Functional Basis A von Soos—p 507.
Psychotherapy. M Serog—p 509 C'td
Rectal and Vaginal Examination G H Schneider.—p 513
Carbon Dioxide Baths in Hypertension F. Turan—p 515
Biologic Reactions of the Skin of the Hog A Haim—p 517.
Clamp for Diathermy Electrodes E. Last—p 520.
Roentgen Ray Treatment of Acute Inflammations O Seemann—p 521.

Hypersensitiveness.—Samson's patient had suffered repeatedly *from hay-fever but had never* had asthma. She developed a typical asthmatic attack a few minutes after intracutaneous injection of a pollen extract

23: 539 582 (April 15) 1927

Results of Surgery of Peptic Ulcers Finsterer—p 539. C'td
*Blunders in Roentgen Ray Diagnosis on Bones R Kienbock—p 542.
Pluriglandular Insufficiency. Borchardt—p 547
Dupuytren's Contracture and Injury. A. Schubert—p 549
*Sequels of Necrosis of the Pancreas W Sebening—p 551.
*Insulin Treatment of Vomiting of Pregnancy. E Sachs—p 556.
*Sterilization of Gravid Animals with Insulin E. Vogt—p 557.
Action of Synthalin and Insulin F Peiser—p 563
Sarcoma and Injury Brandis—p 564
Orthopedics in Paralyses S. Peltesohn—p 566
Sunshine and Influenza J. Ruhemann—p 580

Blunders in Roentgen-Ray Diagnosis on Bones.—Kienbock discusses the manifold possibilities of blunders in roentgen-ray diagnosis of diseases of bones and mentions a few striking examples from reputable institutions.

Sequels of Necrosis of the Pancreas.—Sebening investigated the fate of twenty-one patients who recovered from necrosis of the pancreas after surgical intervention at the clinic in Frankfort (about 50 per cent mortality) The recovery appears to be permanent Disturbances of the internal and external secretion were only transitory

Insulin Treatment of Vomiting of Pregnancy.—Sach advises small, slowly increasing doses of insulin in treatment of vomiting of pregnancy He does not add carbohydrates because he believes that the appetite produced by a slight hypoglycemia is an important therapeutic factor

Sterilization of Gravid Animals by Insulin.—Vogt injected large doses of insulin (50 to 100 units daily, divided into three doses) in female rabbits The animals became sterile after two weeks and refused *the male completely after four weeks* of injections.

Münchener medizinische Wochenschrift, Munich

74: 659 706 (April 22) 1927

Rickets M. Pfaundler—p 659 C td
*Allergen Free Chambers in Treatment of Pulmonary Tuberculosis W Storm van Leeuwen and W Kremer—p 662
*Treatment of Tetany in Adults H Dennig—p 666
Pernicious Anemia G Denecke and A Bingel—p 669
*Action of Liquid Petrolatum on the Intestine E Schlagintweit—p 671
*Fat Soluble Vitamins and Habitual Abortion E Poulsson—p 674
*Dangers of Malaria Treatment of Syphilis H Schottmuller—p 675
Fibrous Pericarditis W Koennecke—p 675
*Scintillating Scotoma F. Penzoldt—p 677
Treatment of Psoriasis K Herxheimer—p 678
Curative Factors of High Altitudes O David—p 679
*Glycolysis in Insulin Poisoning F Fischler—p 680
Electrocardiography in Compression of the Carotid O Holtmeier—p 682
Familial Occurrence of Leukemia Brugger—p 683
A Physician's Thoughts on Medicine A Bier—p 684

Allergen-Free Rooms in Treatment of Pulmonary Tuberculosis.—Storm van Leeuwen and Kremer treated sixteen tuberculous patients in rooms containing cleaned air—such as they use in treatment of asthma They report considerable improvement in some of the patients

Treatment of Tetany.—Dennig had good results in treatment of tetany in adults with calcium or ammonium chloride The daily doses were as large as 15 Gm The treatment did not influence urticaria nor asthma. Only epilepsy was mitigated. Ultraviolet rays gave no results in tetany in adults

Action of Liquid Petrolatum on the Intestine.—Schlagintweit found that liquid petrolatum changes into a fine emulsion in the intestine. It does not cover the scybala—therefore the conception of a lubricant is not correct—but it softens the stool and increases its water content

Fat-Soluble Vitamins and Habitual Abortion.—Poulsson's apparently healthy patient had a normal delivery after a series of spontaneous abortions. He attributes the favorable result to administration of cod liver oil during pregnancy.

Few Dangers from Malaria Treatment of Syphilis.—Schottmuller concludes that with very few exceptions, the treatment is not dangerous to the patient Even syphilitic aortitis is not a contraindication The danger to the community is nil.

Scintillating Scotoma.—Penzoldt, who is himself suffering from such attacks, recommends four doses of 0 25 Gm. of quinine hydrochloride daily for two weeks, or for about four weeks, if two is not sufficient

Glycolysis in Insulin Poisoning.—In the distillate from blood and muscles of animals poisoned with insulin, Fischler found a substance which is changed into iodoform by compound solution of iodine and potassium hydroxide This substance is probably methylglyoxal, although he does not exclude as yet the possibility that it may be acetone or pyruvic acid Muscles from animals killed with insulin remain irritable for a long time Such fibrillary contractions may be produced in normal muscles by direct application of glyoxal Furthermore, he found that methylglyoxal kills immediately an animal poisoned with insulin, but that hydroxyacetone counteracts both this action of methylglyoxal and the insulin poisoning. He concludes that insulin poisoning is due to the production of methylglyoxal from dextrose

Wiener klinische Wochenschrift, Vienna

40: 545 576 (April 28) 1927

*Skin Diseases from Insufficient Menstruation B Aschner —p. 545.
Allergic Diseases F Vollbracht —p 549
Action of Polyvalent Colon Bacillus Vaccine. K von Knorr and L. Nemeth —p 554
Treatment of Pulmonary Hemorrhages O Lichtwitz —p 555.
Myomas of the Intestine A Plenk —p 556
"Limits of Roentgen Ray Diagnosis" G Holzknecht —p 559
*Injections of Hypertonic Dextrose Solution in Disturbances of the Circulation N Jagic and R Klima —p 561
Protracted Intravenous Injection W Schey —p 561
Causes of Backache in Women F Kermauner.—p 562.
Cardiac Asthma R Singer —p 562
Traumatic Diseases of the Spinal Cord H. Steindl Supplement —pp 1 18

Skin Diseases as Sequelae of Insufficient Menstruation.—Aschner reiterates his opinion that menstruation is an important excretory phenomenon When it is delayed or insufficient. as was the case in about 10 per cent of his patients, numerous disturbances follow He deals here with the inflammatory tendency of the skin under these conditions. Venesection, saline purgatives and emmenagogues brought about improvement in most of his cases.

Injections of Hypertonic Dextrose Solution in Disturbances of the Circulation.—Jagić and Klima inject intravenously 20 cc. or more of a 40 per cent solution of dextrose, preferably after a small venesection The injection must be given slowly in order to avoid thrombosis They had good results in pulmonary edema, cardiac asthma, decompensation of the heart and angina pectoris.

Zeitschrift für Geburtshülfe und Gynäk., Stuttgart

90: 487 733 (Jan 14) 1927

The Place of Hematopathia Gravidarum Among Anemias G. Heinrich —p 487.
Improvement of Stroganoff's Treatment of Eclampsia. S Katsuya.—p. 502.
*Physiologic Anemia of Pregnancy. P Kühnel —p 511.
Proliferation of Dystopic Uterine Mucosa in the Ovary. L Ballin.—p. 542
*Fetal Respiratory Movements W Schmitt —p 559.
*Cyclic Changes as a Sex Characteristic of the Woman. H. Sellheim —p. 575
Face Presentations G Raschhofer.—p 583
Histologically Benign Uterine Scrapings in Cases with Clinical Symptoms K Kaufmann and W. Hoeck —p 594.
*Scarlet Fever in the Puerperium W Pösch —p 609.
*Studies of Cell Nuclei in Placenta, Hydatid Mole and Syncytioma Malignum I Y Iwanow —p 631
Congenital Cystic Lymphangioma of the Neck. T. Steinforth —p. 637.
Adenomyosis Interna E von Burg —p 642
Experiences with the Alexander Adams Operation O Wiemann —p 649.
Duplication of the Female Urethra Complicated by Gonorrhea. W. Reiprich and M Schössler —p 663.
Diverticulum of a Persisting Vitelline Duct with Perforation into the Amniotic Cavity. A. Gamper.—p. 669.

Physiologic Anemia of Pregnancy.—Kühnel made frequently repeated examinations of the blood volume, number of erythrocytes and hemoglobin in fifteen pregnant women A physiologic anemia of pregnancy was confirmed. A fall in all three values began some time after the fifth week. The lowest point was reached between the sixteenth and twenty-second week and this level was maintained until between the thirtieth and thirty-second week, when a moderate rise set in, which reached its greatest height at about the thirty-fourth week. The examinations were continued after parturition and showed that the mother's blood required, as a rule, six months to return to normal. For this reason he recommends dietetic and medical treatment aimed at anemia in all cases in which conception has taken place within six months after parturition.

Intra-Uterine Respiratory Movements.—Schmitt maintains that the oxygen exchange of the fetus is regulated by variations in the tonus of the placental vessels, not, as Walz thinks, by respiratory movements on the part of the fetus

Cyclic Evolution and Involution as a Female Characteristic in the Human Species.—Sellheim maintains that the cyclic changes in the woman's organism represent the regular and complete type of evolution; that they are, in a sense, a continuation of the working of the basic biogenetic law.

Scarlet Fever in the Puerperium.—On the basis of six cases of scarlet fever in puerperal women during an epidemic of the disease, Posch discusses the relations between scarlet fever and puerperal sepsis, and the differential diagnosis between the two. Puerperal women appear to be particularly liable to contract the infection, which in most cases enters through the genital wounds.

Studies of Cell Nuclei in Placenta, Hydatid Mole and Syncytioma Malignum.—From examination of more than 700 sections, Iwanow concludes that, in the shape of the nuclei of its cells, chorionic epithelium of the normal placenta does not differ from hydatid mole or syncytioma malignum. Differences in size are ascribable to the influence of change of environment, cell nutrition, etc. An anaplastic transformation of the chorionic epithelium was not confirmed.

Zeitschrift f. d. ges. experimentelle Medizin, Berlin

54: 1-316 (Jan. 25) 1927

*Meat Intoxication with Eck's Fistula. P. György and K. Kleinschmidt. —p 1.
*Encephalitis with Eck's Fistula K. Kleinschmidt —p. 20
*Experiments with London's Angiostomy. P. György and K. Kleinschmidt.—p 23
Experiments on Isolated Ovaries. M. P. Nikolaeff —p. 32.
Blood Pressure in Old Age E. Baráth —p 58.
Variability of Blood Pressure. E. Baráth —p 64
Blood Pressure Regulation After Exertion E. Baráth —p. 68.
Psychoreaction of Blood Pressure. E Baráth —p. 72.
*Gastric Secretion and Coffee A. Bickel and C. van Eweyk.—p. 75.
Carbon Nitrogen Ratio and Mineral Waters A. Bickel et al —p 87.
Action of Iodine on the Heart. H. Guggenheimer and I. L. Fisher.—p 114
Iodine Content of the Blood. B Wottschall —p 123.
*Minerals of the Blood and Urine After Pancreatectomy. Meyer Bisch and D. Bock —p. 131.
*Sodium, Chlorine and Hydration of Organs After Pancreatectomy. Meyer Bisch and D. Bock —p 145.
Mechanism of Vomiting. W. Weitz and W. Vollers —p 152
*Action of Opium on Movements of Stomach and Intestine. W. Weitz and W Vollers —p. 161.
Rhythmic Contraction of Tunica Dartos. B. Weicker.—p. 169.
Action of Insulin on Atropinized Pupil. G Jorns —p 179.
Female Sex Hormones. S. Loewe and F. Lange —p 188.
Action of Insulin on the Blood. A. A Schmidt and R. L. Ssaatschian. —p 199.
Experiments with Colloidal Silver. J. Voigt —p 219.
*The Epidermis and Insensible Perspiration. O Moog —p 226
Liver Function Tests with Dyes K Paschkis.—p. 237
Functional Diagnosis of the Reticulo-Endothelial Apparatus. L. J. Wilensky —p 257.
Action of Calcium on Secretion and Motility of the Stomach. M. Sereghy and T. von Gyurkovich —p 271.
Action of Colloidal Silver. H Bohn —p. 277.
Pharmacology of Chlorophyll. T. Gordonoff.—p 294.
Action of Ergotamine on the Liver. L Loeffler.—p. 313.

Meat Intoxication with Eck's Fistula.—Gyòrgy and Kleinschmidt developed an advantageous method of making Eck fistulas. Exclusive meat diet caused typical poisoning in all their dogs. They confirm the shifting of the blood reaction further to the alkaline side and the increased alkali reserve and lactic acid content during the intoxication. An acidosis occurs only in the agonal stage. Mineral acids, sugar and milk may cure the meat poisoning. The authors point to resemblances to tetany.

Encephalitis with Eck's Fistula.—Unlike Hoff and Silverstein, Kleinschmidt did not observe encephalitis in his Eck fistula dogs that died from meat poisoning.

Experiments with London's Angiostomy.—György and Kleinschmidt modified slightly London's method, which consists in affixing permanent cannulas to blood vessels, which may be punctured at will through the cannula. The alkali reserve and the p_H of the blood from an hepatic vein are higher than those of blood from the portal vein. Both samples—especially the portal—were more alkaline during digestion of meat. An injection of insulin caused acidosis in the portal and hepatic blood. After the injection the blood sugar in the peripheral and portal blood was lower than in the hepatic vein. If sugar is administered during this period, its concentration rises a little in the hepatic vein, but is lower than in the portal vein.

Gastric Secretion and Coffee.—Bickel and van Eweyk found that the stimulating action of coffee on gastric secretion was due to the products of roasting—probably chiefly to histamine. Caffeine had no action in the amounts used.

Metabolism of Minerals After Pancreatectomy.—Meyer-Bisch and Bock investigated the mineral metabolism of pancreatectomized dogs. The blood chlorides were decreased in twenty-seven out of twenty-eight cases. In eleven out of fifteen dogs the decrease was parallel, although not proportional to the decrease in sodium. In all the animals the potassium-calcium ratio was increased. The alkali reserve was diminished in thirteen out of fourteen dogs. The pancreatectomy was followed immediately by a hypochloruria lasting for several days and independent of ammonia excretion. The elimination of nitrogen was increased in all the animals. The chlorine content increased in the muscles and decreased in the skin and liver. The hydration capacity of the muscles (three out of four samples) was increased, that of the liver (two cases) was decreased.

Action of Opium on the Movements of the Stomach and Intestine.—Weitz and Vollers found that opium, after a short period of inhibition of peristalsis, causes irritation of the stomach and increased intestinal tonus. This action and the increased pendulum movements of the intestine favor resorption of fluids and may partly account for the constipating action of opium.

The Epidermis and Insensible Perspiration.—Moog concludes that insensible perspiration is, at least in part, a direct function of the cells of the epidermis.

Zeitschrift für Kreislaufforschung, Dresden

19: 265-312 (April) 1927

Nature of Extrasystoles. C. J. Rothberger.—p. 265.

19: 313-344 (May 1) 1927

Injuries to Healthy Heart Valves. A. Adam.—p. 313.

Zentralblatt für Chirurgie, Leipzig

54: 577-640 (March 5) 1927

Muscle Transplantation in Paralysis of the Serratus. G. Riedel.—p. 578.
Ectopia Testis Perinealis. C. Bayer.—p. 581.
Retropharyngeal Fibrosarcoma. B. S. Tartakowsky.—p. 583.
*Treatment of Cysts of the Pancreas. O. Hahn.—p. 585.
Secondary Hemorrhages After Gastro-Enterostomy. J. Jungbluth.—p. 588.
Antirheumatic Medicines in Traumatic Stiffening of Joints. V. Hoffmann.—p. 590.
*Hypophysin-Sodium Chloride Injection in Treatment of Postoperative Intestinal Paralysis. A. Krinsky and E. C. Stein.—p. 591.
Description of a Rubber Inlay for Shoes. W. Herhold.—p. 592.

Treatment of Pancreatic Cysts.—Hahn reports a case in which Henle established anastomosis between a recurrent pancreatic cyst and a loop of small intestine. The resultant cure is of four years' standing.

Postoperative Intestinal Paralysis Treated by Injection of a Sodium Chloride-Pituitary Solution.—This treatment, recommended by Vogt, was conspicuously successful in the case of an elderly patient, in bad general condition, in whom numerous other remedies had proved useless. Spontaneous defecation took place after 450 cc. of the solution had been injected intravenously. The solution contained 4 cc. of the pituitary preparation to 500 Gm. of physiologic solution.

Zentralblatt für Gynäkologie, Leipzig

51: 449-512 (Feb. 19) 1927

*The Child's Chin as a Guide in Labor. C. J. Gauss.—p. 449.
*The Water Content of the Vagina. H. Bültemann.—p. 458.
Suppuration in Myomas. E. Klaften.—p. 474.
Meroacrania and Encephalocystocele. O. Herschan and B. Beuthner.—p. 480.
Maternal Mortality from Eclampsia. A. Hochenbichler.—p. 486.
Cessation of Bleeding in Third Stage of Labor. J. Wieloch.—p. 493.
Hyperplasia Deciduae Tuberosa at Term. L. Szamek.—p. 496.
Puerperal Gangrene of the Lower Extremities. A. Bartels and A. Estrin.—p. 502.
*Skull Trauma During Birth. W. Cohen.—p. 505.
Prolonged Retention of Foreign Body in the Uterus. W. A. Ssemkowsky.—p. 511.

The Child's Chin as a Guide in Labor.—Gauss describes his method of diagnosing the presentation and progress of the fetus by palpation of the chin. The method should be studied on the illustrations and diagrams that illustrate the text.

The Water Content of the Vaginal Secretion.—Bültemann found that the weight in milligrams of the water contained in the vaginal discharge, under various pathologic and physiologic conditions, paralleled the amount of the discharge. On the other hand, the percental water content of the vagina, i. e., the weight of the water compared with the weight of the total secretion, did not stand in any recognizable relation to the amount of the discharge or to the absolute water content of the vagina. The further the vaginal flora differed from the physiologic, the greater was the water content of the secretion.

Birth Injury to the Skull.—In the case here reported, the mother was a primigravida with rachitic contraction of the pelvis of the second degree. The uterine contractions were unusually strong. The fetal heart tones were irregular for several hours while the head was still mobile and before rupture of the membranes. When the os was found to be completely dilated, the membranes were ruptured artificially. After an hour and a half, the heart tones improved and three hours later the birth took place spontaneously. After about fourteen hours the child became cyanotic, spasms set in and thirty-four hours after birth death took place. At first glance the brain appeared normal, but more careful examination revealed injuries, which were confirmed under the microscope. Cohen recommends forceps delivery, with extensive vaginoperineal incision, if necessary, for all cases of contracted pelvis. This should take place as soon as the head has overcome the disproportion, in order to save the already injured child from further violence.

Zentralblatt für innere Medizin, Leipzig

48: 418-456 (April 23) 1927

Physical Condition of Circulating Proteins. W. Starlinger.—p. 418.
"Essential Hypertension." E. Kylin.—p. 431.
Reply. W. Hülse.—p. 436.
Partial Reply. M. Klingmüller.—p. 439.
Test Diuresis and Diuretics. S. Litzner.—p. 443.

Klinicheskaya Meditsina, Moscow

5: 141-211 (Feb.) 1927

Rôle of Mineral Springs in Treatment of Diabetes. D. D. Pletneff.—p. 141.
Cornelius' Method in Treatment of Muscle Diseases. V. S. Marsova.—p. 161.
*Value of Carbohydrate Test in Various Diseases. F. R. Borodulin and E. I. Grigul.—p. 165.
Origin of Inorganic Systolic Murmurs. N. N. Savitskiy.—p. 177.
The Structure of Neurofibromas. A. Zlatoveroff.—p. 187.
Syphilis and Surgery. M. A. Agronik.—p. 191.

Causes of Misleading Results in Alimentary Hyperglycemia Test.—In Borodulin and Grigul's opinion, the value of this test in hepatic diseases is overestimated. In case of insufficient retention of the blood sugar in the muscles, there may be alimentary hyperglycemia even when the liver functions normally. In case of reduced absorption in the gastrointestinal tract, the amount of sugar carried to the liver is small. Thus the sugar may be retained wholly in the liver, even when the glycogenic function of the organ is impaired. The condition of the vegetative and endocrine systems are other factors interfering with the results of the test. Hence, the carbohydrate test does not reveal the glycogenic function of the liver; it points to the glucose balance in the organism. The test is more important in detection of a latent diabetes and in diagnosis of malignant tumors.

Russkaya Klinika, Moscow

7: 157-314 (Feb.) 1927. Partial Index

Malignant Tumors of the Heart. S. M. Savelzon.—p. 176.
Prognosis of Scarlet Fever Complications. P. S. Galtsoff.—p. 225.
*Cases of Broncho-Biliary and Pleuro-Biliary Fistula. A. G. Smitten.—p. 252.

Cases of Broncho-Biliary and Pleuro-Biliary Fistula.—Smitten reports two cases of gallstones ending in perforation of the diaphragm and consequent appearance of the bile in the pleura in one instance, in the bronchi in the other. Incision of the thorax is the only rational treatment. In case of abscess or echinococcosis of the liver, the operation should be a radical one. In gallstone disease, it should be preliminary to operation on the gallbladder. Early intervention for biliary calculi may avert such a complication. The author found only seventy-one similar cases in the medical literature.

Acta Medica Scandinavica, Stockholm

66: 197-293 (April 30) 1927

*Calcium Metabolism in Diabetes. E. Kylin.—p. 197.
*Potassium and Calcium Content of the Blood and the Epinephrine Reaction. A. Brems.—p. 207.
Acute Spontaneous Porphyria. E. Melkersson.—p. 227.
Serotherapy of Scarlet Fever. V. Bie et al.—p. 238.
Vital Staining of Blood Cells. A. Nyfeldt.—p. 272.
Megalocyte or Macrocyte. A. Nyfeldt.—p 286.
Roentgen-Ray Cancer Cured by Surgical Diathermy. H. Bordier.—p. 291.
*Calcium and Potassium Content of the Blood. E. Kylin. Supplement.—pp. 1-112.

Calcium Metabolism in Diabetes.—Kylin found an average of 12.1 mg. of calcium (as oxide) per hundred cubic centimeters of blood in diabetic patients, as against 11.1 in healthy subjects. Injection of insulin lowers the blood calcium content and increases the calcium elimination by the urine. The urinary concentration following injection of 1 Gm. of calcium chloride is lower in diabetes than in health, in asthma it is higher. The total amount excreted in an hour is about the same in all three conditions.

Potassium and Calcium Content of the Blood and the Epinephrine Reaction.—Brems found no definite relation between the potassium-calcium ratio of the serum and the type of blood pressure reaction to epinephrine injection. He confirms the pressor action of a preliminary injection of calcium chloride. Subcutaneous injection of epinephrine is followed by irregular variations of the two ions in the serum. He emphasizes the necessity for rapid separation of the serum for determination of potassium. Otherwise, incorrect high figures result, due to diffusion of potassium from the erythrocytes.

Calcium and Potassium Content of the Blood.—Kylin publishes the results of his examination of 400 subjects.

Hygiea, Stockholm

89: 321-352 (April 30) 1927

Leonardo Bianchi. S. E. Henschen.—p. 321.
*The Hypoglycemic Symptom-Complex in the Insulin Treatment of Children. C. W. Herlitz.—p. 329.
Cancer. L. Wolff.—p. 335.
*Mare's Milk Injections Against Whooping Cough. E. Tretow.—p. 343.

Hypoglycemic Symptom-Complex in the Insulin Treatment of Children.—Herlitz reports two cases of an overdose of insulin in children. In a child, 8 years old, a stage of exaggerated cheerfulness and animation was followed by one of mania with marked restlessness. In this stage the blood-sugar was 0.064 mg. per hundred cubic centimeters. Not till the rise in blood sugar was very distinct, or till after about 15 minutes, was he hungry. In a boy 5 years old the only symptom of a hyoglycemia of 0.045 mg. per hundred cubic centimeters was severe vomiting. The lowest percentage of sugar observed was 0.022 mg. per hundred cubic centimeters. Herlitz has not noticed any distinct therapeutic effect when epinephrine has been used in serious cases of hypoglycemia.

Mare's Milk Injections Against Whooping Cough.—Tretow has treated many cases of whooping cough with injections of mare's milk with very good results. The reaction of mare's milk is always alkaline, that of cow's milk varies. The percentage of sugar in mare's milk is 6.65, as against 4.88 in cow's milk; the percentage of albumin, 1.89, as against 3.55. The low percentage of albumin makes it less probable that the effect of the injections is due exclusively to this constituent of the milk. Fermented mare's milk taken by mouth has an unmistakably curative influence on acute tracheitis, while kefir, which is the corresponding cow's milk preparation, does not have this effect.

Ugeskrift for Læger, Copenhagen

89: 293-312 (April 14) 1927

*Case of Criminal Abortion with Paralytic Ileus. C. Clemmesen.—p. 293.
*An Epidemic of Parotitis. S. Rohleder.—p. 294.
*Experimental Anemia of Pregnancy. A. Nyfeldt.—p. 296.
The Ordinary Anemias and Our Iron Preparations. Becker.—p. 297.
*A Case of "Larva Migrans." I. Hansen.—p. 298.
The Hygiene Organization of the League of Nations. J. Kuhn.—p. 300.

Case of Criminal Abortion with Paralytic Ileus.—A woman was sent to the hospital under the diagnosis of abortion with sepsis. The temperature was 39 C., the pulse 116. A curettage of the uterus was performed, at which placental tissue and a small fetus were removed. After the operation, symptoms of paralytic ileus developed. She died eight days after admission. The day before she died she admitted having taken every morning for four or five days 5 Gm. of aspirin and, distributed over two days, 3 Gm. of acetanilid, 3 Gm. of antipyrin, 3 Gm. of phenacetin and 1 Gm. of caffein. At necropsy the abdominal cavity was found coated with fine fibrous material. The mucous membrane of the stomach and duodenum was eroded. The medicines she had taken explain the facies morbi but not the paralytic ileus. Although the patient denied attempting to produce abortion, it is thought that she had done so, with resultant sepsis, on which followed peritonitis and paralytic ileus.

Observations on an Epidemic of Mumps in the Faroe Islands.—The epidemic was started by a sailor from a foreign fishing boat. It appeared to be spread directly from person to person and only by intimate contact. Rohleder treated 131 cases; seventy-four were bilateral, fifty-three unilateral. In three cases both the parotid and submaxillary glands were involved; in one case only the submaxillary.

Experimental Anemia of Pregnancy.—In his experiments on rabbits, Nyfeldt worked on the hypothesis that anemia of pregnancy is due to increased production of hemolysin in the placenta. When the production of hemolysin exceeds the normal limit, there develops a hemolytic anemia, which may become pernicious anemia. Experimentally he induced anemia by reducing the resistance to anemia by decreasing the number of chromocytes. The resultant blood picture resembled that of anemia of pregnancy: there was aniso-micro-megalocytosis with some normoblasts and megaloblasts. The leukocytosis did not present any special feature aside from a neutrophilic character in the beginning of the experiment; the lymphocytosis typical of bacterial endotoxin anemia was entirely absent. He succeeded in developing this hypochromatic anemia in two out of thirteen animals experimented on. The others died of toxicosis.

A Case of "Larva Migrans."—Hansen describes a case of "larva migrans" ("creeping eruption") in a Siamese married woman, aged 23. The first symptom was itching over a small area under and on the back of the left internal malleolus. Gradually, as the disease advanced, the skin became brownish and the pigmentation spread several centimeters a day. The disease is caused by the burrowing under the skin of the minute "larva" of a species of gastrophilus. It is seen in Denmark, England, Russia, Japan and Senegal. It is treated by excision of the "larva," which may be very difficult, by injection of parasiticide remedies around the infected area, by application of iodine or by freezing with ethyl chloride.

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. 89, No. 5 CHICAGO, ILLINOIS July 30, 1927

TRAINING IN OTOLARYNGOLOGY *

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PHILADELPHIA

Although nearly all the chairmen of this section for a decade past have concerned themselves in their addresses to a greater or less degree with the subject of the training of the specialist, I find myself, at the risk of being thought lacking in originality, unable to forebear an attempt to emphasize further some features of this most important problem. It is only during the past ten years, or since America's entrance into the war, that attention has been focused on the inadequate preparation that many initiates into the specialties, including ours, were receiving, and on the quite unsatisfactory facilities, either here or abroad, for giving a beginner in otolaryngology a sound basic training. Discussion of this subject for the most part was on the kind and amount of such training needed, and a satisfactory plan was eventually evolved by a committee representing all the national special societies, which plan forms the working basis today of most systematic graduate or postgraduate special instruction. Two years ago the American Board of Otolaryngology was formed by accredited representatives of these societies whose duty it is to examine for a certificate of proficiency all candidates presenting themselves. This is in line with the policy of improving the standard of otolaryngology and in checking up the work done by the various agencies of instruction, and so must be classed as a valuable, if not a vital, part of the system of graduate instruction now slowly being evolved. Our society can justly pride itself on the work done by our delegates to both of these committees; in particular those serving on the American board, which is surely a labor of love entailing the loss of much valuable time from home and work, traveling from coast to coast and from North to South to attend committee meetings and examinations held twice or thrice a year in different sections of the country in order to accommodate as many candidates as possible. The work of examining a large body of men is not an easy task in itself, and that it is conscientiously and not perfunctorily done is attested to by the fact that about 15 per cent of those examined have failed for certification. Our representatives on the board will give a formal report during the business session.

But is the study of the subject of training in the specialty exhausted by the steps that have been taken? Surely not, for after all we are only at the beginning of the work, even as the holder of a certificate of proficiency for a year's work in a graded graduate school is only barely prepared to begin the serious and deep study that should end only with retirement or death. We cannot remain stationary for long; when we cease to be students we shall begin to slip backward and the end is near. We, the members of this progressive society, are always students, else why do we hold these meetings and why attend them? These excellent programs are graduate instruction, higher graduate instruction, if you like, and we who attend and take part are both graduate students and instructors.

As we proceed in our training year by year, we gather experience, which cannot in large measure be supplied by class room or clinic instruction but must be accumulated and assimilated by the individual. But the results of such experience may and should be brought to this platform, and to those of the other societies, for the benefit of all the rest of us students, old or young, in the specialty.

For those of us who are advancing in years of special practice, is there then so much to be learned? Assuredly. What year or month goes by without a host of new and worth-while observations on disease and its remedies being brought to light; the passing of some old and tried procedure replaced by a better one? Look at the titles on the program of this meeting, assembled by the efforts of our distinguished secretary, Dr. Mullin. How many of us dare say we are familiar with all or most of these subjects?

There are certain phases of training after the school or university graduate course has been accomplished that I feel have been neglected in the past and that could be utilized to a marked degree in helping onward the instruction of the tyro. The preceptor system should be revived where it has died away, at least to the extent that every chief of department or service in our hospitals should act as preceptor for the assistants under him. Many chiefs, to their great credit, do so now; but this system might be extended, and should be so extended to every service. The older man should continue personally the training of those under him, watching their work, consulting with them freely about their cases, directing their reading and encouraging them in case reporting, research work and writing. And above all he should supervise their operating and see to it that they have ample opportunities to learn the major as well as minor surgery of the specialty and be given opportunity, as soon as they show proficiency, to operate "in the house." There are men who have served year after year loyally in the dispensaries with never a chance to learn to do the major surgery required of the competent otolaryngologist of today. Each chief, whether in a teaching position or not, should, with an eye to the time when he will perforce be compelled to retire, be strenuously training the men under him to succeed and carry on the work of the

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* Chairman's address, read before the Section on Laryngology, Otology and Rhinology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

department. Such a system begets loyalty to the department and serves best the interests of patients and hospital alike. No chief should allow his assistants to do all the work, nor should he reserve all the major surgery for himself. If he makes the excuse that he has no one under him capable of substituting for him, it is a lamentable state of affairs, dangerous alike to patients and to hospital, and surely his own fault. It should be part of his job to train at least one capable assistant. Many hospital boards object to allowing the dispensary or outpatient physicians operative privileges in the hospital operating room. They should be shown the error of their ways and persuaded to change their rule in this respect. I feel strongly on this subject and gave my views on it a few years ago in a chairman's address before another society.

In what one particular way do we, as a group of students of otolaryngology, most need instruction at the present time? I hazard a guess that it may be in the realm of diagnosis. No one nowadays doubts or undervalues the need for assistance from many other specialties, but are we not, possibly, allowing some of them to do our work of diagnosis for us?

The pediatrician sends us a patient with the request that we remove the tonsils and adenoids. He has already made the diagnosis, from his standpoint, and may even suggest that the operation be done at a certain time and place without the formality of the laryngologist even seeing the patient before he is on the operating table. Or the patient may be examined and pronounced normal, but the reply often is: "I do not agree with you, take them out anyhow." Are we or are we not as competent to make the diagnosis as he; if not, how can we become so? And if we decline to operate on his diagnosis, what happens? You all know the answer.

Just recently the pediatrician has been referring his cases of athrepsia, malnutrition or dehydration to the otologist requesting that mastoid drainage be performed, even in the absence of the otologic signs that we are accustomed to associate with middle ear and mastoid infection. Is the pediatrician justified in assuming under certain conditions that the source of the trouble is otitic even when the otologic examination fails to disclose customary signs of infection? Or is it a fact that the otologist cannot, in these cases, make a positive diagnosis from such signs and symptoms as may be present?

The internist, who has a case of baffling headache, has the nasal accessory sinuses roentgenographed. The roentgenologist reports one or more cavities infected and probably reports in addition that the septum is deflected and the turbinates are hypertrophied. The patient is thereupon referred to the rhinologist, arriving with the roentgenologic report and plates, the diagnosis already made, with a request that the septum be straightened, the turbinate hypertrophies corrected and the indicated sinuses drained. Is the rhinologist compelled to accept this ready made diagnosis, and how many do accept it and do the surgical work as directed? And in such a case how about the average after-results and who gets the discredit in an unsuccessful case? I submit that it is usually the surgeon who did the work.

Or, again, the otologist sends his case of doubtful mastoid infection to the roentgenologist for a roentgenray study. Not infrequently the report is that the films show cell wall destruction and cavity formation; that the patient should be operated on without delay. If he follows this advice as a routine, without a careful balancing of the clinical and laboratory reports and without a careful reading of the plates himself, he will sooner or later open mastoids that do not need operative intervention.

The neurologist tells us that there is a brain abscess in a certain location which should be drained immediately; or that there is no brain abscess where it was thought that one existed. Is the training of the average otologist in the diagnosis of these intracranial conditions sufficient to enable him to take issue with the neurologist in the matter if his judgment does not coincide with that of the latter?

The internist, outlining the treatment of a patient with arthritis, by cultural methods or otherwise makes his own diagnosis of tonsillar infection as being the probable focus from which the disease originates. Can the laryngologist, by inspection, suction or compression controvert his diagnosis in the absence of notable observations by these methods?

Does not the ophthalmologist, at times, rather insist that in a case of retrobulbar neuritis the posterior sinuses be drained and ventilated, or that the tonsils be removed even in the absence of positive rhinologic observations?

These are but examples—many more will doubtless be thought of. I do not dispute the fact that the internist, the roentgenologist, the pediatrician, the ophthalmologist and the neurologist may be right and in a better position to make a good diagnosis of the local condition than the otolaryngologist in some or in many cases; but does this not call on us to study the question of diagnosis, improve our training, in order that improved methods and better understanding may result? In spite of all the improvements in diagnosis that we can obtain, we shall still need the closest cooperation with our brethren in the other specialties, for in that way most surely can error be avoided and diagnosis corroborated.

Shambaugh, last year, in an address before the American Laryngological Association, warned us as specialists against fads in our practice and against indiscriminate operating, without careful and competent otolaryngologic diagnosis, on many conditions referred to us by the other specialties or by the general practitioner, thereby allowing the diagnosis to be taken out of our hands or made to order for us. If we allow this, our specialty is placed under the domination of the others and we are in danger of becoming mere operating machines. On the other hand, since the science of medicine has become so complex that no one man can even remotely hope to grasp all its many details, the solution would seem to lie in most careful graduate teaching, and postgraduate training and study, careful consideration of every otorhinologic phase of the case under observation in relation to the symptoms for which relief is sought, and most thorough and hearty cooperation with those better qualified than we are to understand disease manifestations in other portions of the body.

As the establishment of longer, full-time, systematic courses of graduate instruction under university auspices becomes more general, and as the certificate of the American Board of Otolaryngology becomes more generally recognized as indicating competence in the practice of the specialty, the old short time courses may be expected to disappear gradually and our standing as otolaryngologists to improve. Much otolaryngologic work will, of necessity, continue to be done by general practitioners and so-called specialists who have not had sufficient instruction and training; but the amount so done should become less and less as the years go by. Shambaugh protests against the training of interns in operative technic without giving instruction in the basic branches of anatomy, physiology, pathology and diagnosis as applied to otolaryngology. I am in entire accord with this view. The intern naturally is anxious to acquire what surgical skill he may and welcomes the chance to do tonsillectomies and septum operations, and there is great temptation thus to reward a faithful and hard-working intern. We must remember, however, that by being good natured in this respect we are adding to the very class that we are trying, by means of our work for higher education of the specialist and by the examination of our board, to eliminate. By contributing to the enlargement of this class of untrained specialists we are not safeguarding the best interests of the sick patient or the reputation of our specialty.

1721 Pine Street.

ANTIRACHITIC ACTIVITY OF IRRADIATED CHOLESTEROL, ERGOSTEROL AND ALLIED SUBSTANCES *

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NEW YORK

About three years has elapsed since it was shown in this laboratory that vegetable oils can be rendered highly antirachitic by irradiation with ultraviolet rays.[1] Similar results were reported by Steenbock and his co-workers.[2] In the course of a large series of experiments it soon developed that vegetables can be activated by this means, and furthermore that when they have been thus transformed—for example, carrots or spinach—they retain their antirachitic potency even after being cooked. The problem rapidly assumed a chemical aspect, for it was found that the underlying chemical substance in the oils or vegetables which enabled them to be energized in this striking way was the cholesterol in the animal cell, or its counterpart, the phytosterol, in the vegetable cell. The antirachitic action of the various irradiated foods and chemical substances was established in the laboratory and in the clinic.

From a therapeutic point of view it was of especial interest that dried milk could be rendered antirachitic by this means. That such was the case was shown by Hess and Weinstock on animals and in a study on a series of infants.[3] This experience has been confirmed by numerous observers. For example, György[4] has shown that irradiated dried milk is of value not only in infantile rickets but also in tetany, and Hottinger[5] found such milk more potent even than cod liver oil or its nonsaponifiable fraction, and almost the equivalent of direct irradiation of the child. MacKay and Shaw[6] treated three cases of rickets and one of tetany with irradiated dried milk with notable success; in two instances, the milk was boiled following activation. They regarded their results as comparable to those brought about by direct irradiation. It is evident, therefore, not only that dried milk can be activated but also that it acquires exceptional potency. It may be added that it retains this power for a long period in spite of conditions tending to destruction. In my experience, irradiated dried milk kept in a cupboard under ordinary conditions for a period of half a year loses but little of its antirachitic properties; even after a year the activity was found to be only moderately diminished.

In these early experiments the dried milk was irradiated by means of a mercury vapor lamp for a period of one-half hour at a distance of 1 foot. This intensity of irradiation was associated with certain disadvantages; it led at times to a peculiar alteration in the taste and odor of the milk. As noted in the very first experiments, oils "frequently acquired a somewhat fishy odor resembling that of cod liver oil." Because of this peculiarity, some German writers have given the name of "jecorisation" to the irradiation of oils and other foods. In order to avoid the development of this disagreeable taste or odor, we have subjected dried milk to a diminished intensity of irradiation. It has been found that exposure for a period of two minutes at a distance of from 10 to 12 inches is quite sufficient to render it antirachitic. In general, it may be stated that there does not seem to be a direct ratio between intensity of irradiation and the acquisition of antirachitic properties. This holds true likewise of cholesterol, which can be rendered antirachitic by short exposures—two minute periods at a distance of 1 foot. Short irradiation has the additional advantage of avoiding the destruction of the "fat-soluble" and the antiscorbutic vitamins of the milk. As is well known, these nutritional factors are peculiarly sensitive to oxidation, a process that takes place in the course of irradiation with the mercury vapor lamp. If, however, the milk is subjected to exposures not longer than a few minutes, practically no loss of either of these vitamins ensues.

Soon after the publication of the investigation on the activation of foods, it was shown that cholesterol could be activated readily by these rays.[7] Again, the first tests were carried out in the laboratory and confirmed by observations in the clinic. It was clearly shown that rickets in infants could be cured by the addition to the diet of a 3 per cent suspension of cholesterol in olive oil. Given in this form, cholesterol brought about rapid calcification of the epiphyses, as well as an increase in the percentage of inorganic phosphorus in the blood. It subsequently developed that 1.5 per cent of cholesterol, given in teaspoonful doses three times a day, suffices to bring about the healing process. These experiences with cholesterol have been confirmed in Germany by György and his co-workers,[8] who reported the curative properties of irradiated cholesterol for rickets in animals as well as in infants. Drummond, Rosenheim and Coward[9] noted similar results in animals, and Parsons[10] reported an instance of severe rickets which, failing of cure by cod liver

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* From the Department of Pathology, Columbia University College of Physicians and Surgeons.

[1] Hess, A. F.: Experiments on the Action of Light in Relation to Rickets, Am. J. Dis. Child. **28**: 517 (Oct.) 1924.

[2] Steenbock, Harry; and Nelson, M. T.: Science **60**: 224, 1924; J. Biol. Chem. **62**: 301 (Dec.) 1924.

[3] Hess, A. F., and Weinstock, Mildred: Proc. Soc. Exper. Biol. & Med. **22**: 319, 1925. Hess, A. F.: Antirachitic Activation of Foods and of Cholesterol by Ultraviolet Irradiation, J. A. M. A. **84**: 1910 (June 20) 1925.

[4] György, P.: Klin. Wchnschr. **4**: 1118 (June 4) 1925; **5**: 747 (April 23) 1926.

[5] Hottinger, A.: Klin. Wchnschr. **5**: 2061, 1926.

[6] MacKay, H. M. M., and Shaw, H. F.: Lancet **1**: 8 (Jan. 2) 1926.

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[8] György, P.; Jenke, M., and Popoviciu, G.: Jahrb. f. Kinderh. **112**: 35 (March) 1926.

[9] Drummond, J. C.; Rosenheim, O., and Coward, K. H.: J. Soc. Chem. Ind. **44**: 11 (March) 1925.

[10] Parsons, L. G.: Brit. M. J. **1**: 519 (March 20) 1926.

oil, yielded when irradiated cholesterol was administered. Favorable clinical experiences have been reported also by Goettche and Tolnai.[11] Hottinger has published a favorable account from Basle in his paper entitled "Irradiated Cholesterin in the Therapy of Rickets."[5] Rosenheim and Webster[12] have shown that, as might be expected, "cholesterol is rendered antirachitic by exposure to sunlight as well as to other sources of ultraviolet light." It will be seen that a considerable literature has already developed in relation to this subject, and that opinions are unanimous as to the antirachitic efficacy of irradiated cholesterol.

Recently, we have added irradiated cholesterol to cod liver oil in order to increase its antirachitic titer. Although cod liver oil must be regarded as a specific therapeutic agent, it fails at times to prevent the development of slight degrees of rickets, owing to the fact that infants cannot tolerate a sufficient quantity to insure complete protection. With this problem in mind, we have fortified cod liver oil by the addition of 1 per cent of irradiated cholesterol. This amount readily goes into solution, and animal tests have shown a threefold increase in the potency of the cod liver oil. It had been imagined that a similar result could be brought about by the irradiation of cod liver oil, by activating the cholesterol which forms so large a proportion of its nonsaponifiable fraction. Oddly enough, irradiation of cod liver oil was found to render it less rather than more potent. This unlooked for result was described by Adam,[13] who found that although the dosage of irradiation corresponded in intensity with that which regularly activates cholesterol—one-half hour at about 1 foot distance—the oil lost potency, as judged by animal as well as clinical tests. Its viscosity and surface tension were increased, and its iodine number was lowered. It seemed that the inactivity was brought about by the saturation of the sterol in the cod liver oil. This result—a striking example of the necessity of subjecting theory to the test of experiment—has been confirmed by other observers.

Table 1.—*Antirachitic Action of Irradiated Dried Brain*

			Rickets		
Weights of Rats, Gm.	Rickets-Producing Ration	Supplement of Dried Brain	Roentgenographic	Macroscopic	Microscopic
44-50	Low phosphorus no. 84	10 mg. irradiated 2 minutes at 1 foot	None	None	None
40-44			None	None	None
40-40			None	None	None
38-34	Low phosphorus no. 84	10 mg. irradiated 2 min. at 1 ft., stored 6 mos	None	None	None
42-50			None	None	None
40-50			None	None	None
50-50	Low phosphorus no. 84	50 mg. irradiated 2 min. at 1 ft., stored 5 mos.	None	None	
40-42	Low phosphorus no. 84	50 mg. not irradiated	Moderate	Moderate	
50-51			Slight	Moderate	Moderate
31-44			Slight	Moderate	Slight
30-50			Very slight	Slight	Slight or moderate

Another means of giving activated cholesterol or an allied sterol was provided by feeding irradiated brain. As is well known, the brain contains more cholesterol than any organ in the body. In the first experiments the tissue was irradiated in the natural moist state, but later it was found of advantage to dry it by means of a fan, and to subject the powdered residue to the rays of a mercury vapor lamp. Ten milligrams daily of this material suffices to bring about healing in rats that are receiving the standard low phosphorus (Sherman-Pappenheimer) diet. Irradiated brain maintains its potency for at least five months; a preparation that was irradiated last spring was found to be practically unaltered when retested in the autumn, as recorded in the accompanying table. During the past winter, irradiated brain has been fed to a number of infants who were suffering from rickets, as judged by roentgenograms and by the low percentage of inorganic phosphorus in the blood. It was found that curative processes rapidly ensued when 1 Gm. daily of this preparation was given; the minimal dosage has not been ascertained. It may be added that this powder is tasteless and odorless, and can be mixed readily with milk.

During the past year there has been considerable advance in our understanding of the chemical changes associated with the activation of cholesterol, although the process involved is by no means clear. The melting point, the optical rotation and the composition according to analysis are found to be unaltered in the cholesterol subsequent to irradiation. One definite and characteristic change comes about; namely, an alteration in spectral absorption. Cholesterol has a distinctive absorption of certain ultraviolet rays, a phenomenon that is constant and reproduceable. Hess and Weinstock[14] found that, following irradiation in an alcoholic solution, cholesterol consistently absorbed less ultraviolet energy and transmitted more of these radiations than a similar solution that had not been irradiated. The spectral lines between 280 and 285 millimicrons are particularly suitable for judging the optical change of cholesterol brought about in this way. These results with absorption spectrums have been confirmed and elaborated by Schlutz and Morse,[15] and more recently by Pohl of Goettingen.[16] This rapid method makes it possible to eliminate the long delays inherent in animal experimentation, and necessary to test only such substances biologically as have been found altered in their absorption spectrums. By this means, it has been possible to examine in a very short period a considerable series of sterols prepared in the laboratory.

One of the first points noted in connection with the chemical changes in the activation of cholesterol was that these changes depended on the presence of the double bond; in other words, of the unsaturated carbon linkage. If the cholesterol were saturated, for example with [illegible] er could be rendered antirachit [illegible] failed to show the typical alteration in the absorption of ultraviolet rays. This observation has been confirmed by György and Jenke[18] as well as by Rosenheim and Webster[12] and Bills and McDonald,[19] who demonstrated the importance of the secondary alcohol group in the sterol molecule in connection with activation. The alcohol group does not have to be intact, but the hydroxyl may be replaced by certain acid radicals.

At first it was thought that the activation was due to oxygenation, but many experiments from various

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11. Goettche, O., and Tolnai, M.: Jahrb. f. Kinderh. **114**: 199, 1926.
12. Rosenheim, O., and Webster, T. A.: Biochem. J. **20**: 537, 1926.
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19. Bills, C. E., and McDonald, F. G.: J. Biol. Chem. **72**: 13 (March) 1927.

sources have shown that this inference is incorrect. The very fact, as reported in one of our first experiments, that cholesterol can be activated when suspended in liquid petrolatum indicates that the presence of oxygen is not essential. Furthermore, the antirachitic change occurs in cholesterol that has been irradiated in an atmosphere of nitrogen. Rosenheim and Webster, as well as György, showed, however, that oxygen decreases the stability of the antirachitic properties; cholesterol that has been irradiated in nitrogen retains its antirachitic potency far longer than that which has been irradiated in air.

Recently, the question has been raised as to whether it is the cholesterol itself that is activated or some impurity or contaminating substance intimately associated with it. There were various reasons for suspecting that such might be the case, primarily the observation that less than 1 per cent of cholesterol is activated by the ultraviolet rays. It would lead too far afield to review the chemical manipulations which have led to the conclusion that it is not cholesterol but an associated sterol which is altered. This question has been discussed recently in detail in papers by Windaus and Hess.[20] The main evidence is that when cholesterol has been purified, either by recovering it from the dibromide or by means of animal charcoal, it can no longer be activated. This conception was also brought forward by Rosenheim and Webster[21] and by Heilbron and his co-workers,[22] and might be inferred from some experiments of Koch, Cahan and Gustavson,[23] who were able to separate activated cholesterol into two fractions by means of liquid ammonia.

Having in mind the possibility of a contaminating sterol, Windaus and Hess prepared and tested a large series of preparations to ascertain whether they could be rendered antirachitic by means of irradiation.[24] Of this series the only one that was specifically altered, as judged by the spectral absorption test, as well as by animal experimentation, was ergosterol prepared from yeast. Ergosterol is an optically active sterol possessing three double bonds and a hydroxyl radical; its molecule, therefore, possesses the two factors that have been proved to be essential to the activation of cholesterol derivatives and allied sterols. Irradiated for one-half hour at a distance of 1 foot, ergosterol was found to bring about healing of the bones in rachitic rats when as little as 0.002 mg. per capita was given daily. This infinitesimal amount is by far the smallest quantity of any vitamin or specific nutritional factor that has been shown to possess curative properties. It will be remembered that approximately 1 mg. of irradiated cholesterol is required to protect a rat from rickets. Activated ergosterol is therefore about 500 times as potent as irradiated cholesterol.

We have not yet tested irradiated ergosterol in the clinic, but have made use of irradiated yeast from which, as stated, the ergosterol was extracted. For this purpose, irradiated brewers' or bakers' yeast has been used. The dried yeast was spread in a thin layer and irradiated at a distance of 1 foot for a period of one-half hour. From 10 to 25 mg. was given daily to each rat, and was found to bring about calcification of the epiphyses. Whether a smaller amount would be effective has as yet not been ascertained. In the treatment of rachitic infants from 0.5 to 1.0 Gm. doses were given daily, suspended in milk. This preparation was readily taken, and brought about not only a definite curative process but also in some cases an increase in weight, a temporary growth stimulus described some years ago when autolyzed yeast was fed to infants.[25]

It is possible that ergosterol is the essential impurity in cholesterol, and that activated ergosterol is the antirachitic factor or vitamin. It would seem more probable, however, that other unsaturated sterols will be discovered which can be rendered antirachitic by ultraviolet rays, and that ergosterol is merely one member of this group.

TABLE 2.—*Antirachitic Action of Irradiated Dried Yeast*

Weights of Rats, Gm.	Rickets-Producing Ration	Supplement of Dried Brewers' Yeast	Rickets	Inorganic P, Mg. per Cent
46-40	Low phosphorus No. 84	5 mg. irradiated ½ hour at 1 foot	None	4.9
60-52			None	
50-60			None	
60-62			None	
40-44	Low phosphorus No. 84	10 mg. irradiated ½ hour at 1 foot	None	4.3
60-68			None	
46-44			None	
50-46			None	
44-44	Low phosphorus No. 84	25 mg. not irradiated	Moderate	2.4
52-60			Moderate	
60-70			Moderate	
40-34			Very slight	

CONCLUSIONS

The most practical application of an irradiated food is the use of irradiated dried milk for infant feeding. It is the unanimous opinion that dried milk treated in this way prevents or cures infantile rickets and tetany. The specific activity of the milk is maintained for a period of at least six months.

Irradiated cholesterol has been successfully used as an antirachitic. It may be added to cod liver oil to increase its potency.

Dried brain, which contains an exceptionally large amount of cholesterol, was irradiated and used successfully.

It has been shown that it is not the cholesterol itself which undergoes activation, but probably a contaminating sterol intimately associated with it.

Among a large number of sterols which were irradiated and tested for antirachitic power, Windaus and Hess found that ergosterol was the only one which acquired antirachitic activity. This sterol, which was prepared from yeast, brought about calcification of the epiphyses experimentally when as little as 0.002 mg. was fed daily. This is the smallest amount of any of the nutritional factors or vitamins which has been found to exert a specific action.

Instead of ergosterol, irradiated yeast may be employed as an antirachitic. This product has been found highly effective in animals and in infants.

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[20] Hess, A. F., and Windaus, A.: Proc. Soc. Exper. Biol. & Med. **24**: 171 (Nov.) 1926; 369 (Jan.), 461 (Feb.) 1927. Windaus, A., and Hess, A. F.: Gesellsch. d. Wissensch. z. Goettingen., Jan. 28, 1927.

[21] Rosenheim, O., and Webster, T. A.: J. Soc. Chem. Ind. **45**: 932 (Dec. 10) 1926.

[22] Heilbron, I. M.; Kamm, E. D., and Morton, R. A.: Biochem. J. **21**: 78, 1927.

[23] Koch, Elizabeth M.; Cahan, M. H., and Gustavson, R. G.: J. Biol. Chem. **67**: lii (Feb.) 1926.

[24] The following derivatives were tested and failed of activation: β-cholesterol, heterocholesterol, α-phytosterol; cholesteryl chloride, cholesteryl amin-acetate; cholesten, pseudocholesten; cholesterilen; cholestan-4-7 diol; cholestan 4-on 7-ol; chol [illegible] olesteryl-ether; cholesterol dibromide; [illegible] and irradiated); apocholic acid (Proc. [illegible] [Nov.] 1926). György, Jenke and Popoviciu reported that cholestanole, cholic acid and hydrated products deprived of double bonds could not be activated (Jahrb. f. Kinderh. **112**: 35 [March] 1926).

[25] Hess, A. F.: Yeast and Wheat Embryo in Scurvy, Am. J. Dis. Child. **13**: 98 (Jan.) 1917.

BROMIDE INTOXICATION *

FURTHER STUDIES

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In two recent publications[1] the results of studies on the mechanism of bromide intoxication, or so-called bromism, were set forth. In these studies the following points were established with their experimental evidence:

1. Ingested bromide was with difficulty passed through the renal epithelium.
2. Salts of bromine tend in consequence to be stored up in the tissues of the body.
3. Bromide displaces the chloride ion in the body, the ingestion of the former leading to rapid elimination of the latter, with consequent chloride deficiency.
4. In cases of bromide intoxication, the intravenous injection of physiologic sodium chloride solution leads to the liberation of the bromide from the tissues, occasionally accompanied by a sharp renal irritation.
5. The replacement of bromide in the tissue by chloride immediately favorably influences the symptoms of bromism, notably those in the nervous system and in the skin, causing their rapid involution.

During the past two years eight more cases of bromide intoxication have been studied, and I am now able to add these to the existing evidence of previous observations, as well as to report an easy method for the detection of bromide in body fluids.

In our previous work we were hampered considerably in doubtful cases by the absence of any good method for the detection of bromine in tissue fluids, notably in the presence of chlorine. The test used by us in our previous communications consisted in the liberation of free bromine from the suspected tissue by the addition of potassium permanganate crystals and concentrated sulphuric acid. In this operation both chlorine and bromine are driven off. When large quantities of bromine were present, the latter could be detected at times by the visible brown vapor, and also by the sense of smell. When bromine was present in small quantities, the gas could not be seen, and its differentiation from chlorine by smell was exceedingly difficult owing to the similarity in odor of the two gases.

Recently one of my associates (G. H. Belote) has applied to these studies a very simple modification of a test for the detection of bromine which, besides being applicable in the presence of chlorine, is so sensitive that, in urine, bromine can be detected in solutions of 2 mg. per hundred cubic centimeters (1:50,000). This test is originally found described in Fresenius' text book on chemistry, and has been modified by Belote as follows:

The bromine is liberated as before in the suspected tissue fluid (urine, blood, spinal fluid, saliva and gastric content) by the addition of a few crystals of potassium permanganate and a few drops of concentrated sulphuric acid. After the test tube has been agitated, a small strip of filter paper impregnated with fluorescein and moistened with dilute acetic acid is held to the mouth of the test tube. The escaping bromine immediately combines with the fluorescein to form eosin, giving a bright pink color on the test paper in contrast with the lemon yellow color of fluorescein.

The presence of chlorine, which is liberated at the same time, instead of interfering with the test, apparently makes it more sensitive.

By the application of this method we have been able not only to corroborate the diagnosis of doubtful cases of bromism in which the bromide exanthem was present, but also to establish definitely the etiology of toxic psychoses without skin lesions in which ingested salts of bromine were the insult.

The importance of this test as a diagnostic procedure is evident when it may be added that in two psychotic patients the lesions immediately cleared up with the establishment of the bromide etiology on the intravenous administration of physiologic sodium chloride solution.

Of the eight cases lately under my observation, three were cases of toxic psychosis induced by the ingestion of salts of bromine. In two cases there was associated bromide eruption. The detection of bromine in the urine and in all the tissue fluids was made in one case by the new method. In the other two cases the diagnosis was established by the previous method of detection.

In the case in which an exanthem was not present, studies were undertaken with the various body fluids to determine whether bromine could easily be detected elsewhere than in the urine. In this patient the test for bromine was determined not only in the urine but also in the spinal fluid, blood, sputum and gastric content.

Of the three psychotic patients, two received repeated injections of sodium chloride solution in doses of from 100 to 400 cc. with rapid recovery from both mental and cutaneous symptoms. In one patient we were able to confirm our original observation that, following the initial dose of sodium chloride solution, marked accentuation of existing cutaneous lesions occurred and a few new ones appeared. Subsequent injections of physiologic sodium chloride solution caused their rapid involution.

The remaining five cases showed bromodermas without mental symptoms. Three occurred in epileptic patients who had taken salts of bromine for the control of the convulsions. The remaining two occurred in patients taking bromide for other causes—insomnia in one and headache with erythema nodosum in the second.

In the group of epileptic patients, I was again able to substantiate our earlier observations that there is no apparent relation between the size of the dose taken, or the length of time the drug has been used, and the appearance of the exanthem. In one case the eruption followed immediately the ingestion of the bromide; in the second the drug had been taken two weeks, and in a third the eruption occurred after the drug had been used intermittently over a period of fifteen years.

In this group of five cases without mental symptoms, bromine was found in all in the urine. In one case bromine was present in such quantities that it could be seen as a brown gas; in two cases it could easily be detected by the sense of smell, and in the remaining two cases which were recently seen the gas was easily demonstrated by the fluorescein paper test.

Of this group only one patient remained long enough to be treated by sodium chloride injections. This patient had simultaneously both bromodermas and ery-

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* Studies and Contributions of the Department of Dermatology and Syphilology of the University of Michigan Medical School, Service of Dr. Udo J. Wile.

* Read before the Section on Dermatology and Syphilology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

[1] Wile, U. J.; Wright, C. S., and Smith, N. R.: A Preliminary Study of the Experimental Aspects of Iodide and Bromide Exanthems, Arch. Dermat. & Syph. 6:529 (Nov.) 1922. Wile, U. J.: Further Contributions to the Experimental Aspects of Iodide and Bromide Exanthems, Arch. Dermat. & Syph. 8:407 (Sept.) 1923.

thema nodosum. The existence in this case of a septic temperature could probably be ascribed to the latter condition. A coexisting albuminuria so readily disappeared with the disappearance of the bromide exanthem following the treatment by intravenous physiologic sodium chloride solution that it seems quite likely that the renal irritation was a part of the bromide intoxication. Following the injection of 300, 400, 450 and 500 cc. of physiologic sodium chloride solution in this case the bromodermas rapidly involuted. The albuminuria cleared up also, but the septic temperature and the erythema nodosum persisted.

CONCLUSIONS

1. Further observations confirm those expressed in the earlier studies from this clinic as to the great value of physiologic sodium chloride solution injected intravenously in the treatment of bromide intoxication.

2. Both the mental and the cutaneous effects of bromide intoxication are rapidly and favorably influenced by this treatment.

3. The initial dose of sodium chloride solution should not be of more than from 100 to 150 cc. If well tolerated, this may be increased to from 300 to 400 cc., given twice weekly.

4. The introduction of physiologic sodium chloride solution results in a rapid elimination of the bromide, with occasional renal irritation.

5. A convenient method for the determination of bromine in body fluids has been developed which is of great value in establishing the diagnosis both in frank and in doubtful cases.

ABSTRACT OF DISCUSSION

Dr. George H. Belote, Ann Arbor, Mich.: I am sure you will be interested in the chemistry of the test. Fluorescein is $C_{20}H_{12}O_5$. Eosin is $C_{20}H_8Br_4O_5$. When bromide is added, the result is at once visible. In this case, the solution is fairly well known and to that we add potassium permanganate crystals and sulphuric acid. We do not believe that the amount is material, except that it should be in excess. Fluorescein paper is then moistened either with water or with 2 per cent acetic acid, whereupon it immediately becomes pink.

Dr. William H. Guy, Pittsburgh: The introduction of this new test for bromine gives us something which is not only reliable but in which there can be no question about the reaction obtained, it is so clean cut. I had some difficulty when I first used the test apparently because the paper Dr. Wile mailed me deteriorated in transit. Then I made a fresh supply of paper and ran through about 300 comparative tests, under the direction of Drs. Koch and Judd of the department of pharmacy of the University of Pittsburgh. I could not locate any chemical that would give a false positive. Excess chlorides, which are sometimes present, only make the test more sensitive. Iodine does not interfere. It is exceedingly sensitive. One point we should stress is that fluorescin and fluorescein are different chemically but in solution they become the same product. In preparing paper it may be used in various strengths. I started it by using 1 per cent, and then after reading Fresenius' original article on the subject I cut this down to 0.04 per cent. The paper may be soaked in from 50 to 60 per cent acetic acid and dried for future use, at which time it is only necessary to moisten it or it may be moistened with the acid at the time the test is made. Dr. Jacob and I have had approximately twenty cases to date, seven of which occurred in young children. In the latter Dr. Wile's treatment proved as efficacious as in the adult cases. Perhaps too much stress has been laid on miraculous results. Such is not always the case. Response may be somewhat slow; it is not to be expected that one treatment will give results. Treatments must be continued. Further, too large a dose of sodium chloride should not be used early in the treatment on account of the likelihood of scratching the kidneys in the course of eliminating large quantities of bromine. We do not hesitate to use intravenous injections in infants in the median basillic or the jugular veins or even through the fontanel. It is conceivable that in a long standing bromoderma the urine may be entirely negative for the bromine. Further, finding bromine in the urine does not prove that the eruption present is due to bromine. Clinical judgment must be used in connection with it. A further use for the test is in testing samples labeled "chemically pure sodium chloride." One sample was found to contain a trace of bromine.

Dr. Harold N. Cole, Cleveland: We have found that if we treat all these areas with the roentgen ray in addition to the saline solution, the irradiated lesions will disappear twice as fast as those that are not. It is also a question whether giving salt by mouth in a certain number of mild cases is not of value.

Dr. Joseph J. Eller, New York: Last March, Dr. MacKee presented a case in which it was necessary to keep the patient under a sedative, as he was an epileptic. Phenobarbital did not seem to control the attacks. That man had a complete irradiation of the lesions by the ingestion of a teaspoonful of sodium chloride by mouth daily. Taking the salt by mouth daily while under bromide therapy prevented bromide eruptions and other undesirable effects.

Dr. Paul E. Bechet, New York: Bromoderma sometimes used to last for months, withstanding the most strenuous treatment. Now it is only a question of weeks to bring about a cure. Regarding the administration of salt by mouth, I had a patient with bromide acne who was taking bromide by mouth for a gastric disturbance. The lesions had been present for three or four weeks, but they cleared up entirely after the oral administration of sodium chloride in drachm doses, two or three times a day. My experience with the intravenous administration of saline solution in bromoderma fully corroborates the observations of Dr. Wile, and the excellent therapeutic results attained.

Dr. Lester Hollander, Pittsburgh: The intravenous use of salt solution is not practical in all types of cases, and for those I would suggest the use of sodium chloride by mouth. Large quantities may be given if a sodium chloride tablet coated with phenyl salicylate is given, as this passes through the stomach and does not become dissolved until it reaches the small intestines. I also apply sodium chloride compresses locally to the lesion.

Dr. Everett S. Lain, Oklahoma City: I wish to ask Dr. Wile whether it is possible, and how frequently he sees similar eruptions caused by phenobarbital and other substitutes for bromide. Also, whether this treatment is of any value in such cases. I have seen several cases of similar eruptions which I thought were due to substitutes which are now frequently given in place of bromides.

Dr. Udo J. Wile, Ann Arbor, Mich.: I have had practically the same experience that Dr. Cole had in finding that the roentgen ray is extremely useful in conjunction with the injection of salt solution. With regard to the ingestion of salt, this is nothing new because probably all who have followed the treatment of epileptics in epileptic colonies know that patients are given large amounts of salt each day in order to keep them from becoming stuporous while taking bromides. The objection to giving the salt over long periods is that it is quite unpleasant, and I think it may contribute to hyperacidity. As with the other drugs that are administered intravenously, the action is much more prompt in this way. This work has to do solely with the halogen group. I do not think that the substitutes for bromide would be in the slightest way influenced unless they contain some salt of bromide. In regard to the failure to find bromine in long standing cases, if one suspects a bromoderma in a large nodular eruption and the test for bromide in the urine is negative, the proper procedure is to give the patient chloride and to continue examining the urine; this procedure will certainly shake it out if it is present.

POLYCYTHEMIA IN FEATHER DYERS *

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The case reported here is of a man, for many years a feather dyer, whose habit it was to test his dye solutions by tasting, who for some time preceding his death from coronary thrombosis showed a marked increase of red corpuscles. He had exhibited cyanosis long before the polycythemia was first noted (1919). During his last period in the hospital there came to visit him a young woman, Miss M. D., who, we discovered, had also suffered polycythemia (12,400,000 at one time), and whose improvement following irradiation and benzene treatment had been reported by Hurwitz and Falconer.[1] She had given them (in 1915) her occupation as milliner, but further inquiry now (July, 1919) brought out the fact that she had in reality also engaged extensively in the dyeing of feathers, having been an active associate in the business with our patient from about 1912 to 1916. With this exception, the report by Hurwitz and Falconer nine years ago contains a complete account of her case up to that time. The onset of dizziness, etc., described by them dates from about or shortly after the time she began feather dyeing. Since then, Dr. Falconer informs me, her health has remained excellent and a complete blood count obtained by him a few weeks ago was normal. Following about 1916, when she received benzene and irradiation treatments, her work as feather dyer became less frequent, and it ceased entirely three years ago.

Inquiry now develops the fact that whimsical fashion has all but extinguished the feather business, so that only one dyer is still following the trade in San Francisco. He is a middle aged Japanese, who has been in the work a number of years but has never made a practice of tasting his dyes. He looks and feels well, but the blood sample he permitted us to take shows a red count of 6,040,000, white count 7,850, and hemoglobin 70 per cent (Tallqvist). Two others who did feather dyeing several years ago have been traced. Both state that they had good health during and subsequent to their work with dyes, but it was not possible to secure blood counts.

Including the case here reported and that reported by Hurwitz and Falconer, the records of the University of California Hospital show only twelve cases of polycythemia since 1913. Eight have been traced; four are lost. Of the latter, the blood condition was attributed to congenital heart disease in two, to tricuspid insufficiency in one, and to chronic asthma and emphysema in the fourth. Of those traced, two were the feather dyers mentioned above. A third has died of tuberculosis, and his family state that although he never had industrial contact with dyes he did dye his hair black for a number of years; the nature of the dye is unknown. A fourth died of myocarditis (his physician believes there was no dye contact). A fifth (who has nephritis and hypertension) is improved and states that he has never come in contact with dyes. A sixth is improved (has thrombo-angitis obliterans) and never used dyes. The other two both had congenital heart disease and have since died.

If, therefore, the cases of congenital heart disease, tricuspid insufficiency and emphysema are excluded, there remain but six cases, of which two were the feather dyers and one the man who frequently dyed his hair. These facts, together with the finding of more than 6,000,000 red cells per cubic millimeter in the only remaining feather dyer in San Francisco, make it necessary to regard the chemical contacts in these cases as more than coincidental.

Several poisons encountered in industry have been credited with causing at times increased numbers of red corpuscles. Egdahl,[2] Apfelbach [3] and others have reported high counts in workers exposed to carbon monoxide gas; Tyson and Schoenberg [4] have reported the same in chronic methyl alcohol poisoning; Hamilton [5] quotes G. R. Minot as finding polycythemia in workers exposed to ether fumes; and Malden [6] found six of thirteen workers in aniline fumes to have a red count of more than 5,000,000—the highest, however, was 5,680,000.

Chemical substances used by feather dyers include a large number of aniline dyes as well as oxalic acid, trinitrophenol and other acids, potassium bichromate and other salts, etc.

A complete list of chemicals used by the two feather dyers mentioned was obtained from the private compilation of formulas of Mr. C. M. and is appended to his case report which follows. Those marked with a star are also used by the Japanese referred to as the only remaining feather dyer in San Francisco, who also has a high red count. He also uses from time to time a number of dyes (mainly aniline) not on this list.

With the data at hand it is impossible to do more than hazard a guess that some of the coal tar derivatives are responsible for the blood changes in these three feather dyers and perhaps also in the man who often dyed his hair. Cloth dyers should be investigated. Those who have spent years in actual contact with the dyestuffs are not numerous in San Francisco and for the most part work in institutions whose managers are unwilling to allow investigation for fear of creating labor discontent. One German who has spent seventeen years in working with aniline and other dyes appears healthy and has a normal blood count. It is suggested that the feather dyers' practice of shaking feathers in the air after immersion in the vats may give them an atmospheric droplet exposure that does not occur in other branches of the dye industry.

The mechanism by which the polycythemia is produced is of course also obscure. That the increased production is a secondary effect of long continued blood destructive action is suggested by Hudson.[7] In the case reported it will be noted that polycythemia was not found two years before the patient's death. If this suggestion is correct it would probably preclude the therapeutic use of the responsible chemicals for stimulating blood production; but, on the other hand, it is possible that the stimulation of blood formation is a primary or predominant effect of one or more of the dyes and that these might be of therapeutic value. The subject evidently merits much further study.

REPORT OF CASE

History.—C. M., a German, aged 61, was admitted to the medical service of the University of California Hospital, June 24, 1919. The previous entry, in November, 1917, also supplies part of the data. The family history was unimportant. He had had gonorrhea several times when young, pneumonia at 40, pleurisy at 48 (3 quarts of fluid removed) and inflammatory rheumatism at 54 (in bed eleven weeks). His habits were ordinary; he was not alcoholic. He was a feather dyer for many years. His associates state that he had the habit of gaging dye solutions by tasting.

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* From the Department of Medicine, University of California Medical School.

[1] Hurwitz, S. H., and Falconer, E. H.: The Value of Roentgen Rays and Benzene in the Treatment of Polycythemia Vera, J. A. M. A. **70:** 1143 (April 20) 1918.

[2] Egdahl, Anfin: Chronic Carbon Monoxide Poisoning, J. A. M. A. **81:** 282 (July 28) 1923.

[3] Apfelbach, in Kober and Hanson: Diseases in Occupation, Philadelphia, 1916, p. 43.

[4] Tyson and Schoenberg: Arch. Ophth. **44:** 275, 1915.

[5] Hamilton: Industrial Poisons in the United States, New York, 1925.

[6] Malden: J. Hyg. **7:** 672, 1907.

[7] Hudson, W. G.: M. Rec. **91:** 68 (Jan.) 1917.

The principal complaint was abdominal pain, present off and on for twenty years, usually a dull, diffuse ache throughout the central abdomen, worse three or four hours after meals and usually relieved by food. There was some pyrosis. Three years previously and again within a few weeks there had been unusually severe abdominal pain for several days, which was increased by eating. This was knifelike, high in the epigastrium and under the ensiform cartilage, but it did not radiate. At no time was there nausea, vomiting, jaundice, melena or diarrhea. Urination occurred once or twice at night. There were no attacks of fainting, but occasionally he was dizzy while standing. There had been some cough in the last two or three weeks only, but no weight loss. There were occasional night sweats. There had been hemoptysis in 1917.

Examination.—The patient was of average build and weight. There was considerable cyanosis of the ears, lips and nose (also noted in the hospital record of 1917). He was nervous but not very sick looking. The left pupil was slightly irregular in outline. The right apex was moderately dull down to the midscapular region, with prolonged expiration and harsh breathing and questionable amphoric breathing to the right of the second dorsal vertebra. There were no râles. There was embryocardia with muffled heart sounds. The systolic blood pressure was 110; diastolic, 65. A smooth, hard, nontender liver edge was felt 4 cm. below the costal margin. A hard, nontender spleen edge was felt 2 cm. below the costal margin. There was slight epigastric deep tenderness. The left testis was soft, atrophic and slightly tender. Examination otherwise was negative. There was no clubbing of the fingers. Notes of the 1917 admission were essentially the same, but there had not been splenic enlargement.

July 3, during defecation, he experienced for the first time terrific pain in the chest, as if an iron band were about the chest. The heart sounds were found rapid and muffled but regular, the pulse rapid and of low tension, the veins of the neck distended, apparently from straining and holding his breath in an effort to relieve the pain, and general cyanosis was increased. An amyl nitrite pearl gave almost immediate relief and in a few minutes he began to perspire, but in fifteen minutes the pain returned, to be relieved again in about five minutes by 0.0012 cc. of spirit of glyceryl trinitrate.

In the next ten days there was no severe pain, but then (July 14) the patient felt very nervous in the afternoon and had a presentiment that more pain was impending. That evening, on returning to bed after an easy defecation, he was seized with a very severe "boring" pain in the region of the manubrium, going through to the midback and accompanied by an aching sensation in both arms. There was no sense of constriction or suffocation this time, but the pain was so severe that he feared heart failure and death. Apparently there was some relief from amyl nitrite, but not as definite as before. A fair degree of relief followed an injection of spirit of glyceryl trinitrate. He had a poor night and next morning expressed doubt about the relief he had had from the amyl nitrite inhalations.

At 3 o'clock next afternoon while lying quietly in bed he suffered another attack of severe pain, this time in the epigastrium and not radiating. This pain he described as severe and steady, with occasional more severe exacerbations. Amyl nitrite now did not give relief and he was given morphine. At 6 p. m. another severe attack of pain occurred, this time extending all over the chest and both arms; it lasted ten minutes, with increased cyanosis and very anxious facies. The blood pressure during this attack was 100 systolic and 65 diastolic.

In the following ten days before his death several less severe attacks of pain recurred, at one time a slight dull ache in the epigastrium, at another a dull ache and pain over the region of the spleen. The physical signs remained essentially unchanged except for the onset of auricular fibrillation (July 21), when the systolic blood pressure was 90, and a small amount of fluid at the left base two days before the end. He died quietly during sleep, July 26.

Laboratory Examinations.—Urine examinations were for the most part negative except for an occasional slight trace of albumin and a few leukocytes, and, toward the end, a few granular and hyaline casts. Urobilin and urobilinogen were present, July 17, but not on several examinations before and after this date.

Roentgen-ray examination of the chest showed a somewhat widened aortic arch, a cloudy right apex, and apparently some fixation of the right diaphragm. Gastro-intestinal roentgenograms were negative. Sputum examinations were negative for tuberculosis.

The temperature was normal or subnormal at all times; the respiration varied from 20 to 28; the pulse rate at various times averaged from 100 to 115.

Chemicals Used in Feather Dyeing

Dyestuffs.
- "Aniline dyes"
  - Oxyketone group
  - Alizarine dyes
  - Azo group
    - Monazo group
      - Mandarin
      - Coccine
      - Coccinine
      - Acme yellow
    - Diazo group
      - Bismarck brown
  - Azine group
    - Induline
    - Nigrosine
    - Safranine
  - Diphenylmethane group
    - Canareine (auramine)
  - Triphenylmethane group
    - *Methyl green
    - Guinea green
    - New green
    - Cotton blue
    - Cloth blue?
  - Thiazine group
    - *Methylene blue
  - Xanthone group
    - *Rhodamine (carthamine)
  - Quinoline group
    - Quinoline yellow
  - Indigo group
    - Indigo (natural?)
    - Indigo (synthetic?) powder
    - Indigo sulphate?
    - Indigo carmine
  - Picric acid
- Natural dyes (organic)
  - Logwood liquor (hematoxylin)
  - Archil (cudbear)
  - Turmeric (curcumine)
  - Cochineal (carmine)
  - Redwood Brazil
  - Camwood (sandalwood)
  - Quercitron
  - *Fustic
  - Flavine
  - Sumac
  - Anatta
  - Green walnut husks
  - Hypermic?
  - Fustet?
  - Redarine?
- Metallic salts
  - Victoria green (chromium)
  - Bluestone (copper)
  - *Potassium bichromate
  - *Potassium permanganate
  - Iron pyrolignite
  - Copperas (iron sulphate)
  - Tin chloride

Other chemicals used.
- Sodium bicarbonate
- *Sodium bisulphate
- Sodium sulphate
- Sodium hypochlorite
- *Ammonium hydroxide
- Potassium bitartrate
- Potassium aluminum sulphate
- Sodium potassium tartrate
- Calcium carbonate
- *Acetic acid
- *Oxalic acid
- *Tartaric acid
- Tannic acid (tannin)
- *Sulphuric acid
- Sulphurous acid
- *Hydrogen peroxide

Gastric lavage did not show any residue, and gave about average curves for free hydrochloric acid and total acidity. Stool examinations were negative for parasites and occult blood.

Blood examinations were as follows:

Nov. 26, 1917: Hemoglobin, 90 per cent; erythrocytes, 4,416,000; leukocytes, 16,000; polymorphonuclears, 89 per cent; small lymphocytes, 6 per cent; large lymphocytes, 5 per cent.

June 6, 1919: Hemoglobin, 90 per cent; erythrocytes, 6,320,000; leukocytes, 9,400; polymorphonuclears, 90 per cent; small lymphocytes, 9 per cent; large lymphocytes, 0; eosinophils, 1 per cent.

July 2, 1919: Erythrocytes, 5,780,000.

July 14, 1919: Erythrocytes, 8,000,000; leukocytes, 13,000 (after chest and epigastric pain).

July 15, 1919: Erythrocytes, 8,000,000 (same from ear and toe).

July 16, 1919: Erythrocytes, 7,089,000; leukocytes, 15,300 (four hours after 300 cc. venesection).

July 17, 1919: Erythrocytes, 9,100,000; leukocytes, 20,000; polymorphonuclears, 95 per cent; small lymphocytes, 3 per cent; large lymphocytes, 0; eosinophils, 1 per cent; basophils, 1 per cent.

July 19, 1919: Erythrocytes, 7,000,000.

July 23, 1919: Erythrocytes, 6,832,000; leukocytes, 31,150.

July 25, 1919: Erythrocytes, 6,096,000; leukocytes, 23,250.

July 17, 1919, by the gasometric method, blood from the arm, hemoglobin was 193.6 per cent (normal by this method, about 120); oxygen carrying power, 35.89 per cent by volume; oxygen content, 23.72 per cent by volume; oxygen absorption, 12.17 per cent by volume.

July 17, fragility tests revealed: initial hemolysis, 0.400; complete hemolysis, 0.250.

July 19, the blood volume was as follows: first sample taken at 3:40 p. m. with patient's temperature 36.4 C. (97.5 F.). At 3:45 p. m., 1¼ of 1 per cent brilliant red injected. At 3:47 p. m. second blood sample taken. Blood volume, 8,951; plasma volume, 910; total blood cell volume, 6,041; hematocrit, 67.6. At 3:54 p. m. third sample taken. Blood volume, 9,060; plasma volume, 3,890; total blood cell volume, 6,170. Hematocrit, 68.1.

Autopsy Diagnosis.—Thrombosis in left ventricle of the heart with chronic fibrous myocarditis and dilatation of heart; embolism of the right coronary artery, of the spleen, and of the kidneys. Chronic fibrous tuberculosis of the right apex. Left sided fibrous pleurisy. Hyperplasia of the marrow of the long bones (erythroblastic).

The chemicals used in feather dyeing were copied from his private book of formulas, and are listed in the accompanying tabulation. Dr. John Sampson kindly arranged the chemical grouping, but the letter and number suffixes of the dyes were not procurable. Those marked with a star are also used by the Japanese dyer referred to.

490 Post Street.

THE MEDICAL CURE OF DUODENAL ULCER *

DOUGLAS VANDERHOOF, M.D.
RICHMOND, VA.

Chronic peptic ulcer is now recognized as a frequent malady, and is responsible for the symptoms in nearly 10 per cent of any large series of patients complaining of persistent or recurring indigestion. Early methods of diagnosis were so faulty and treatment so unphysiologic that the medical aspect of peptic ulcer was soon completely overshadowed by brilliant surgical studies in the recognition and treatment of the disease. In the last ten or twelve years, however, there has been a growing dissatisfaction with the large proportion of surgical failures and the incidence of chronic invalidism following operative treatment.

INEFFICIENCY OF SURGICAL TREATMENT

In the surgical treatment of peptic ulcer one has to consider not only an immediate operative mortality rate varying from 2 to 10 per cent, but also the frequent occurrence of secondary gastrojejunal ulceration, the almost inevitable perigastric adhesions, the somewhat less common kinking and obstruction of the intestine and the absence of any assured immunity from subsequent hemorrhage, perforation and malignant degeneration. The inefficiency of surgical treatment is further shown in the constant trend toward more radical procedures. Gastro-enterostomy was succeeded by pyloroplasty; then followed various forms of pylorectomy and excision, and in the last few years an increasing number of surgeons have been performing a subtotal gastrectomy with complete exclusion of the ulcer bearing area in the stomach and duodenum. This radical operation precludes the possibility of peptic ulcer but also removes the acid-secreting portion of the stomach necessary for normal digestion. The advocates of subtotal gastrectomy have shown that gastric anacidity is found after this operation in more than 80 per cent of the cases. In the absence of immediate disability, they overlook the fact that persistent achlorhydria is ultimately followed by undesirable changes in the bacterial flora of the intestines, and that such individuals are potential candidates for pernicious anemia, subacute degeneration of the spinal cord, and other less obvious toxic states.

Glaring discrepancies are immediately encountered when one studies the published statistics of end-results from various surgical clinics. My personal experience is completely in accord with the reported evidence from a large metropolitan clinic to the effect that a permanent cure after gastro-enterostomy was secured in less than 50 per cent of the cases, and that secondary gastrojejunal ulceration occurred in 34 per cent. The fact has been further emphasized that in some clinics the patients complaining of distressing symptoms following surgical treatment for peptic ulcer almost approach in number those suffering from untreated gastric and duodenal ulcer.

If it is admitted that gastro-enterostomy for peptic ulcer is unsuccessful in a large proportion of patients and that more radical surgical procedures jeopardize the future health of the individual, the alternative of medical treatment should be conscientiously considered in every case. One is inclined to question either the intelligence or the motives of the surgeon who operates immediately after a roentgen-ray examination shows a filling defect in the duodenal bulb, almost before the barium has been expelled from the intestinal tract. On the other hand, immediate surgical intervention is indicated, of course, in acute perforation and should be deliberately undertaken in pyloric stenosis, in most instances of penetrating ulcers, and in those associated with perigastric adhesions. Until more is definitely known of the real incidence of malignant degeneration, many physicians will continue to recommend surgery in obvious gastric and prepyloric ulcers. Patients with frank hemorrhage due to peptic ulcer have inevitably better chances of recovery on proper medical treatment than when submitted to operation.

MEDICAL TREATMENT OF DUODENAL ULCER

Peptic ulcer occurs much more frequently in the first portion of the duodenum than in the stomach. In many instances, it is uncomplicated either by periduodenal adhesions or by disease in the appendix or gallbladder, as can be satisfactorily determined by competent roentgen-ray studies after a barium meal and by the almost exact information rendered by cholecystography. Certain of these duodenal ulcers undoubtedly undergo spontaneous healing, as evidenced by the indurated scars found at necropsy in any large hospital service. From personal observation extending over more than fifteen years in a comparatively large series of private patients, I am thoroughly convinced that practically every case of uncomplicated duodenal ulcer is curable by adequate medical treatment. In actual practice, however, only about 50 per cent of the patients are permanently cured, but a study of the recurrences shows that the individual failed to carry out his treatment regularly or for the prescribed length of time. In addition, no other condition, unless it is malaria with its prompt response to quinine, gives such an immediate therapeutic test; and if the patient is not relieved of symptoms in a week, one is not dealing with an uncomplicated duodenal ulcer.

The principles of the adequate medical treatment of duodenal ulcer are based on the methods succinctly laid down by Bertram Sippy in 1912 and again in 1915. Experience has suggested certain modifications and, in addition, special attention is given to a particular insistance on the details and regularity of the regimen, and to the duration of treatment. In most instances the patients are not hospitalized.

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* Read before the Section on Practice of Medicine at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

TREATMENT OF DUODENAL ULCER

1. *Frequent Feeding.*—The most important part of the treatment is to secure the buffer effect of the food by frequent feeding. In patients with acute pain and marked pylorospasm, the ideal food is 2 ounces (60 cc.) each of cream and sweet milk, to which is added 10 grains (0.65 Gm.) of sodium citrate, given once every hour from 7 a. m. to 9 p. m. In the average instance of chronic duodenal ulcer, however, six feedings a day suffice, and the patient is instructed never to go more than three hours while awake without putting food into the stomach. The food between meals and at bedtime may consist of a glass of sweet milk or a milkshake with egg. When this is not convenient, a good substitute is cream cheese with crackers and butter.

2. *Diet.*—Except for the acute cases and those in which there is hemorrhage, the patient is given a liberal diet, and it should be explained to the individual with a chronic duodenal ulcer that he does not have "indigestion" but rather too much digestion. These patients are told to eat a general diet with the exception of seven types of food which are to be avoided: (1) all acids, such as vinegar, pickles and sour foods; (2) raw fruits, especially apples, grapes and citrus fruits; (3) soups and meat extractives; (4) condiments and spices, such as an excess of salt, and pepper, mustard and horseradish; (5) intense sweets, such as honey, molasses and candy; (6) very coarse foods, as nuts and corn, and (7) alcohol in every form, but especially sour wines, cider and grape juice. The best food for patients with ulcer is fat, such as cream, butter and olive oil, and the next best food is albumin in some form, and they are told to partake freely of milk, eggs and all kinds of cooked meat.

3. *Belladonna.*—The third item in the treatment, which may not be essential but certainly appears to be helpful and indicated, is the administration of atropine or belladonna. In my series, this is given in the form of the tincture of belladonna, 10 drops in water three times a day before the regular meals. This tends to release pylorospasm and hyperperistalsis, and possibly reduces the total acid secretion of the gastric glands.

4. *Bismuth.*—After the three regular meals, and again at bedtime, the patient is given a level teaspoonful of bismuth subcarbonate. If this should be constipating, a small amount of heavy magnesium oxide may be added. Sodium bicarbonate is not used, and careful observation has never shown an instance of alkalosis during treatment.

5 *Duration of Treatment.*—The treatment must be carried out regularly and persistently over a period of two years. If omitted for one or two days, it is conceivable that the healing of the ulcer may be delayed thirty days or more.

6. *Control of Patient.*—This is undoubtedly the most difficult part of the treatment. Failures of medical therapy with recurrence of symptoms are inevitable if the patient becomes at all careless or forgetful, or considers himself cured because of the prompt relief from suffering. The number of medical cures is largely in proportion to the intelligence of the patient and the painstaking explanation of the physician for each part of the treatment, with insistance on punctuality of feedings and absolute regularity of the regimen. As a control and check on the treatment, the patient is instructed to report once each six months for the two year period. Each time this is done the patient is again roentgenographed by the same roentgenologist who made the original study. Six months after treatment is instituted, the deformity in the duodenum may have disappeared. In other instances, the outlines of the defect are found to be smoother, gastric hyperperistalsis has decreased, and hypermotility has diminished. Treatment for the full two years is continued regardless of the improvement noted on roentgen-ray examination. Five such examinations are made during the two years' treatment, and it is a rare observation not to see the ulcer deformity either disappear or undergo a decided change in appearance compatible with a healed scar. These interviews with each patient at intervals of six months give the physician the opportunity to review the principles of the treatment and to emphasize the absolute necessity of strict adherence to the details involved.

7. *Subsidiary Treatment.*—This consists in the attempt to correct any other physical impairment, with special emphasis on the removal of chronic foci of infection in the tonsils, sinuses and about the teeth. Cases of concurrent chronic appendicitis and chronic cholecystitis are treated surgically before the ulcer treatment is instituted but, with the consent and knowledge of the patient, the cooperating surgeon is instructed not to perform any operation on an otherwise uncomplicated duodenal ulcer.

8. *Subsequent Care.*—At the expiration of two years, all medication is discontinued. The patient is told he may eat what he wishes, except that he should avoid acids, intense sweets, an excess of condiments, and especially cider, grape juice and sour wines. It is also advisable that a patient with a healed duodenal ulcer should not go too long without food, and many patients continue to eat between meals and at bedtime although not with the exact regularity required during the period of treatment.

RESULTS OF MEDICAL TREATMENT

My experience with the medical treatment of uncomplicated duodenal ulcer has been most gratifying. Considerably more than half the patients have not only secured immediate relief but remained well and free from symptoms after the two year period is completed. The opportunity has been offered of making studies and roentgen-ray examinations of certain of these patients seven and eight years after the treatment was discontinued, and evidences of recurrence have not been found.

In a second relatively large group of patients, the treatment affords such prompt relief that they are unwilling to continue it in the absence of symptoms. Recurrence of the ulcer syndrome is almost inevitable; temporary relief is again secured by resuming treatment, but the patient drifts along until some complication occurs and operative intervention becomes necessary or imperative.

In a third group, which is indeed a small one, treatment affords only partial relief or no change at all in the symptoms. Further study invariably discloses the fact that such patients have a duodenal ulcer that is not uncomplicated, or that an actual mistake in diagnosis has occurred, as, for instance, in certain cases of chronic gallbladder disease with adhesions involving the duodenum.

SUMMARY

In the current literature, the statement is made not infrequently that medical treatment of peptic ulcer is fraught with much danger In my whole experience with the method as outlined, I have never known of an instance of either hemorrhage or perforation during the period of treatment One patient under observation ten years ago died from repeated hemorrhages, but at that time the exact details of the treatment had not been formulated

The principles involved in the treatment here advocated are not new or unusual The successful results would seem to depend chiefly on the intelligent cooperation of the patient that follows an unhurried, painstaking explanation by the physician for each part of the treatment, on the insistence that the treatment must be carried out each day with peculiar regularity and persistence, and, finally, on the extension of duration of treatment over the full two year period

The medical literature dealing with peptic ulcer is extensive and much of it is available For this reason it seems unnecessary to refer to the current expressions of the many writers on this subject In the series of patients on whom this report is based, I am especially indebted to the painstaking roentgen-ray studies of Drs Daniel D Talley and L J Whitehead, and to the hearty cooperation of my surgical colleagues Drs Murat Willis and Frank S Johns, who have studied and followed many of the patients in the conviction that patients suffering from uncomplicated duodenal ulcer should have the benefit of adequate and carefully supervised medical treatment before the question of surgical procedures is considered

501 East Franklin Street

ABSTRACT OF DISCUSSION

Dr. Franklin W White, Boston I am in close agreement with nearly all that Dr VanderHoof has said He has painted the surgical picture rather black I see far more surgical cures, say 75 per cent, and fewer jejunal ulcers, say from 2 to 5 per cent The Sippy type of treatment is generally used, the essentials are frequent feeding and a bland diet I do not lay the stress on alkalis that Sippy did Their use is not a principle but a convenience, especially with ambulatory cases at first, but I do not push them far For this reason, the danger of alkalosis is unimportant In using four or five Sippy powders a day for a week or so, and then diminishing them rapidly to two or three a day, I find practically no alkalosis, and see it only in the patients with marked pyloric stenosis, a group which is really surgical In the diet, we need ride no hobbies We need not feed everybody milk and cream whether they like it or not There is no objection to cereal gruels, or egg and milk for variety We have to consider the patient s taste In the first hemorrhage, we all agree that medical treatment is vastly safer than surgical, and nine out of ten patients recover

We know the diet, the drugs and the routine scheme of treatment, why do we not get better results in general medical practice? I think the chief mistake is in the follow-up treatment The patients are deceived because their symptoms soon disappear, and the physician often gets careless and does not follow them up in a thorough way Patients should report at regular intervals for a year or two until they are safe We get about 60 per cent permanently well on medical treatment about 20 per cent so well that they will not consider surgery and about 20 per cent go to the surgeon after careful medical treatment

Roentgen-ray evidence has definite value as an index of healing in lesser curvature ulcer In duodenal ulcer it is much less definite because often scar tissue and adhesions deform the duodenum after the ulcer has actually healed The days of making a roentgen-ray diagnosis of duodenal ulcer and of sending the patient at once to a surgeon are pretty well over The better the surgeon, the less likely he is to operate immediately on an uncomplicated duodenal ulcer The value of surgery is not in treating the whole group but in effecting a cure in many difficult cases

Dr. John J Gilbride, Philadelphia I agree with a great deal that Dr VanderHoof has said and I disagree with considerably more that he has said We know that "practically 100 per cent' do not recover under medical treatment, at least, that is my experience It is not a question of contest between the internist and the surgeon, it is a question of cure of the patient and which is the best means to accomplish that end The successful treatment of duodenal ulcer cannot be carried out except by physicians who are familiar with this kind of work After one has made a correct diagnosis of the presence of duodenal ulcer, one should determine whether the ulcer is one amenable to medical treatment, or whether surgery is indicated The outstanding need is the cure of the patients by medical means if we can, and by surgery if we must It is a recognized fact by those who have had sufficient experience in the management of this disease that a great many patients with duodenal ulcer get well under medical treatment As a matter of fact, practically all these patients should receive medical treatment in an effort to cure the disease, except when definite surgical indications exist, as obstruction, bleeding and perforation, or when the disease has resisted medical treatment It is difficult to have these patients carry out instructions We know that unless they carry out the treatment in the manner in which we definitely and positively instruct them we are not going to get satisfactory results, any more than we are going to get correct answers in mathematics or anything else

As to the failures after surgery, a gastro-enterostomy does not terminate the case Following gastro-enterostomy, the ulcer patient requires as much skilful treatment or even more, than he did before the operation The patient cannot be operated on and then dismissed He must be under the care of a physician who is competent, one who knows the functions of the stomach, and how to prescribe and enforce a diet Otherwise disagreeable symptoms may occur and the operation may be blamed As for alkalosis, I have not seen any of it in my experience of twenty-five or more years, and a large part of that time I have been connected with a clinic for the treatment of gastro-intestinal diseases

Dr. G B Eusterman, Rochester, Minn The method of treatment proposed by the author should prove effective In approximately 1,800 patients with chronic, acute or subacute peptic ulcer, including duodenitis, who come under our observation yearly at the Mayo Clinic, about 90 per cent of the lesions are duodenal On an average, 55 per cent of the patients with duodenal lesions are submitted to operation, owing to the chronic and invariably complicated stage of the lesion when first seen The remainder are given medical treatment for various reasons, such as the mildness of the complaint, the age of the patient, obesity, an unwillingness to submit to operation, or because of the presence of some coexisting complication which would seriously increase the surgical hazard In about 75 per cent of the cases of chronic gastric ulcer operation is performed for the reasons already stated, in addition to the actual or potential factor of carcinoma It is the rule, rather than the exception, for the deformity of the duodenal cap to persist after healing following either successful treatment or operation, whereas in early gastric ulcer the niche permanently disappears in the majority of cases after adequate treatment This feature is of practical importance because in patients who have had gastro-enterostomies elsewhere and who subsequently come under observation with a persistence or a recurrence of their symptoms, the visualization of a normal cap implies, in the majority of instances, that there had not been a duodenal ulcer originally

Like Dr White, I disagree with Dr VanderHoof concerning the end results following operations by competent surgeons I take it that the statistics presented were those from Mount Sinai Hospital in New York, and therefore are not representative, as they deal with a racial group which, in our experience, has an unusually high tendency to single or multiple recurrence of the ulcerative process In a follow-up of 1,000 patients with proved duodenal ulcer ten years after gastro-enterostomy, Balfour showed that 90 per cent were cured or satisfactorily improved. I might add that in our experience secondary operations for all types of sequelae following all types of operations for benign peptic ulcer are necessary in only 3 per cent. Based on a personal experience covering treatment of more than 600 patients, I should say that medical cure, with results satisfactory to the patient, presupposes hospitalization, adequate treatment, the enlistment of the complete cooperation of the patient covering a period of from twelve to eighteen months, and a thorough carrying out of all the details mentioned by the author. In the last few years we have found that the reduction of one fourth or even one half of the usual amount of alkalis effects neutralization more readily and more completely in the majority of cases, and at the same time avoids the dangers of alkalemia.

Dr. J. N. Hall, Denver: One element in treatment has been omitted, namely, being sure of the diagnosis. In the last twenty years I have seen twenty or thirty cases in which various conditions have been found at operation which were not diagnosed before operation. They are sometimes diagnosed by some of the roentgenologists but not generally by clinicians, so far as I know. They make trouble and ought to be looked after. Incarceration of the pylorus in a Treitz hernia in one case led to a diagnosis of pyloric ulcer. Dr. Leonard Freeman and I have had six or eight cases of a shortened Treitz ligament, kinking the third portion of the duodenum and commonly suggesting ulcer. Several duodenal diverticula have been extremely puzzling.

If the patients do not do well, one ought to find out what pathologic condition is present in the abdomen. Spastic pylorus, without any lesion visible to the naked eye, may make trouble. One patient had such hemorrhages that we were on the verge of giving him a transfusion two or three times. We finally operated and found, not ulcer, but pure spasm of the pylorus. He gained 48 pounds (22 Kg.) in the next eight weeks and remained well, so I think that my statement that the pylorus was at fault is correct. Then we ought not to forget what happens with a bad gallbladder or bad appendix. I had one patient treated for ulcer twenty-five years and another one for twenty years in whom nothing was present but a chronic appendicitis. Those cases ought not to run on month after month, year after year, without the physician finding out what is wrong in the abdomen.

Dr. Seale Harris, Birmingham, Ala.: The physician handling ulcer cases should realize that he is dealing with a chronic condition. The Mayo statistics on ulcer average ten years of symptoms. Our statistics average five years. I had one patient with perforation who had a definite history of ulcer for thirty years. As to the modification of the Sippy diet, I do not think Dr. Sippy ever claimed that his diet was original with him. The Lenhartz diet for ulcer was published, in an article, in 1901, and von Leube and his followers claimed that Lenhartz was killing the patients by feeding them, and Lenhartz retorted that von Leube was starving his patients to death. Lenhartz received as much abuse for feeding ulcer patients as those who began feeding patients with typhoid. Sippy visited Berlin in 1904, and soon after his return published his modification of the Lenhartz diet. Other men visited Berlin about the same time, and at least ten different modifications of the Lenhartz treatment have been published. I was guilty of one of those myself. The original Lenhartz treatment provided for beginning the treatment with half-ounce hourly feedings. Sippy's modification makes it 3 ounces, an ounce and a half each of milk and cream. That is a dangerously high fat diet to begin with. That is one of the reasons why alkalis have to be given in the Sippy diet. The thing we should get is this, not to give our ulcer patients a routine diet but to make the diet fit the patient and not the patient fit the diet. Following hemorrhage from an ulcer, I think it would be well to use a modification of the Minot-Murphy diet for pernicious anemia.

Dr. Douglas VanderHoof, Richmond, Va.: I wish to emphasize one point. In the current literature one often sees the statement that the medical treatment of duodenal ulcer is fraught with much danger. In my whole experience, as I have outlined it here, I have never seen an instance of hemorrhage or perforation while the patient was under treatment, with the exception of one patient, treated more than ten years ago, who died from repeated hemorrhages. Of course, medical treatment will not cure 100 per cent of duodenal ulcers, but my experience certainly leads me to believe that an uncomplicated chronic duodenal ulcer is curable by medical treatment.

INFLUENZAL PERICARDITIS *

RUTH E. TAYLOR, M.D.
CHICAGO

Although a vast amount of work has been done to determine the etiology of influenza and a voluminous literature on the subject has accrued, it is not certain that the influenza bacillus causes the disease. Bronchopneumonia in which the influenza bacillus has been the only demonstrable organism present is not infrequent. Cases of purulent meningitis, nearly always fatal, have occurred in which the influenza bacillus alone was found. In 1897, Fraenkel[1] reported two such cases, in which at autopsy the meninges were covered with exudate and bathed in green yellow pus. The organisms which were found in direct smears of the exudate were both phagocytized and free. Pericarditis complicating pneumonia and empyema was frequently reported during the epidemic of 1918-1919 and 1920. In 300 necropsies of patients dying of influenzal pneumonia, reported by Stone,[2] pericarditis was found in 24 per cent and was usually secondary to empyema. The infecting organism was usually the pneumococcus or a streptococcus of the hemolytic variety.

In Levin's[3] review of 860 cases of influenza in children at the Cook County Hospital, pericarditis was said to have occurred not at all in 1918 and 1919, and only once in 1920. The bacteriologic observations were not reported in this case. A number of case reports of pericarditis following influenza have appeared in the literature, but only in a few of these has the influenza bacillus been the infecting organism. In 1918 Malloch and Rhea[4] described a case of purulent pericarditis due to the influenza bacillus. Because the condition is rarely seen, the case reported here is of some interest:

REPORT OF CASE

M. S., a boy, aged 6 years, was admitted to the Durand Hospital with the diagnosis of laryngeal diphtheria, having been ill for only a few hours, with symptoms of laryngeal obstruction. On admission the temperature was 103.4 F., pulse 140, and respiration 28. The white blood count was 35,000. There was evidence of right lower lobar consolidation at this time. Diphtheria antitoxin was given, and several hours later intubation was done to relieve increasing difficulty in breathing. As intubation apparently gave little relief tracheotomy was performed, but the respiration, pulse rate and temperature remained high. The child's condition remained little changed for three days, when evidence of pleurisy and extension of the pneumonia to the left lower lobe appeared. On the following day the child's condition seemed worse and a blood transfusion of 180 cc. of whole blood was given. During the transfusion the child became cyanotic and died before the operation was completed.

Postmortem examination by Dr. R. H. Jaffe, twelve hours after death, revealed extensive consolidation of the upper and lower lobes of the right lung and complete atelectasis of the

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* From the John McCormick Institute for Infectious Diseases.

[1] Fraenkel, cited by Leuchtenberger, R.: Influenza Meningitis, München. med. Wchnschr. **71:** 1061-1062 (Aug. 1) 1924.

[2] Stone, W. J.: Pericarditis as a Complication of Pneumonia, Based on Three Hundred Necropsies, J. A. M. A. **73:** 254 (July 26) 1919.

[3] Levin, I. M.: *Influenza and Its Complication in Children: Review of Eight Hundred and Sixty Case Histories in Cook County Hospital, Inclusive of Epidemics of 1918, 1919 and 1920,* Internat. Clinics **2:** 64, 1920.

[4] Malloch, Archibald: and Rhea, L. J.: Two Cases of Endocarditis Due to Bacillus Influenzae, Quart. J. Med. **12:** 174 (April) 1919.

lower lobe of the left lung There was a heavy deposit of fibrin over the left lower lobe The pericardial cavity, which extended 3 5 cm beyond the sternal margin in the fourth interspace on the right and to the anterior axillary line on the left, was distended with pus and fibrin, which covered the visceral surface of the pericardium with a shaggy green gray coating The myocardium was soft and flabby The mesenteric lymph nodes were all very large, the lipoid content of the suprarenals was diminished, and the liver and kidneys showed cloudy swelling All the structures of the larynx were red and swollen

Microscopic examination of the heart muscle showed a heavy deposit of leukocytes and fibrin adherent to the muscle wall and in many places invading it deeply Bacilli resembling those in cultures from the pericardial fluid, both intracellularly and extracellularly located, were abundant in the exudate and scattered within the muscle fibers

Cultures from the pericardial fluid contained a gram-negative bacillus corresponding culturally and morphologically to the influenza bacillus No other bacteria were present This organism was also found alone in direct smears from the pericardial fluid and in sections of consolidated lung.

SUMMARY

A case of pneumonia, pericarditis and laryngitis first received attention because of symptoms of laryngeal obstruction. The disease, which occurred when influenza was not epidemic, ran a rapid course. The influenza bacillus was isolated from the lungs and pericardial fluid in pure culture

CARCINOMA OF THE ISLANDS OF THE PANCREAS *

HYPERINSULINISM AND HYPOGLYCEMIA

RUSSELL M WILDER, M D
FRANK N ALLAN, M B (Tor)
M H POWER, Ph D
AND
H E ROBERTSON, M D.
ROCHESTER, MINN.

We have recently studied, both clinically and at necropsy, a case of severe spontaneous hypoglycemia. This is attributed to a tumor of the islands of Langerhans with metastasis in the liver and lymph nodes. The condition has not been described heretofore and in this sense it represents a new disease

It is well known that when the blood sugar is lowered sufficiently by the injection of insulin, a syndrome is provoked which is marked especially by tremor, tachycardia, convulsions and coma. This is ascribed to hypoglycemia, and the phenomenon has been variously designated as insulin reaction, insulin shock, hypoglycemic reaction and intoxicatio glycopriva.[1] Mansfeld[2] has produced hypoglycemia in dogs by mass ligation of the body of the pancreas which obstructs the ducts but preserves the blood supply of the distal part of the organ, and he attributes the hypoglycemia to the hypertrophy of the islands which follows the operation. Herxheimer[3] has ligated the pancreatic ducts in birds and found that the pancreas, after this operation, contained five times as much insulin as is usual. That massive regeneration of islets usually results from ligation of the pancreatic ducts is well known from the earlier studies of Herxheimer,[4] Bensley[5] and their pupils. Extreme hypoglycemia is also produced by extirpation of the liver, by Eck fistula, and by certain hepatic poisons such as hydrazine. Thus at least two types of hypoglycemia must be differentiated, the one pancreatogenic, due to insulin, the other hepatogenic, from failure of the liver to supply sugar to the blood

In Addison's disease,[6] in hypothyroidism,[7] in certain forms of hypopituitarism, in progressive muscular atrophy[8] and in status thymolymphaticus[9] the blood sugar has been found low, although seldom if ever low enough to provoke symptoms.

That prolonged starvation may lead to fatal hypoglycemia was first observed by Joslin[10] in patients with diabetes. In adults with no diabetes, undernutrition may or may not cause low blood sugar.[11] In five children subjected to experimental fasts, Talbot and his associates[12] observed hypoglycemia; in one case this reached 0.038 No symptoms were noted except in one case, and they were indefinite. Mild cases of hypoglycemia have been reported by Cammidge[13] in cases of hepatic disease, and a severe case, thought to be of hepatic origin, has been described in interesting detail by Wagner and his associates.[14] Hypoglycemia thought to be of pancreatic origin (hyperinsulinism) has been reported (Harris,[15] Jonas,[16] John[17] and others), but thus far conclusive evidence has not been advanced to support a diagnosis of spontaneous clinical hyperinsulinism

Carcinoma of the pancreas commonly arises from the ducts or acini, and heretofore its origin in the islands has not been conclusively demonstrated. The statement of Fabozzi[18] that a large proportion of pancreatic cancers originate from islands was never credited; and while Horgan,[19] in a study of pancreatitis, observed cellular evidence of malignancy in islets that had undergone hypertrophy, the tumors in his cases were microscopic, and metastasis to other structures was not found. Hypertrophy of the islands is common, but adenoma is

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* Read before the Society of Clinical Investigation, Atlantic City, N J, May 2, 1927

* From the Section on Diabetes and General Nutrition of the Division of Medicine and the Division of Pathologic Anatomy, Mayo Clinic

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[2] Mansfeld, G Versuche zu einer chirurgischen Behandlung des Diabetes, Klin Wchnschr. **3:** 2378-2380 (Dec 23) 1924.

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[11] Jansen, W H: Die Ödemkrankheit, Deutsches Arch f. klin Med. **131:** 144 200, 1920

[12] Talbot, F B, Shaw, E B, and Moriarty, Margaret E: Hypoglycemia and Acidosis, J A M A **83:** 91 93 (July 12) 1924

[13] Cammidge, P J: Hypoglycemia, Lancet **2:** 1277-1279 (Dec. 20) 1924.

[14] Wagner, Richard, and Parnas, J. K Ueber eine eigenartige Storung des Kohlenhydratstoffwechsels und ihre Beziehungen zum Diabetes mellitus, Ztschr f d ges. exper. Med **25:** 361 384, 1921 Helmreich, Egon, and Wagner, Richard Ueber die Phasen des Kohlehydratumbaues, ibid **45:** 490 496, 1925

[15] Harris, Seale Hyperinsulinism and Dysinsulinism, J. A. M A. **83:** 729 733 (Sept 6) 1924

[16] Jonas, Leon Hypoglycemia, M. Clinics N. America **8:** 949 958 (Nov) 1924

[17] John, H J Hyperinsulinism, Surg Gynec Obst **44:** 190-193, 1927.

[18] Fabozzi, Salvatore: Ueber die Histogenese des primaren Krebses des Pankreas, Beitr z path Anat u z allg Path **34:** 199 214, 1903

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comparatively rare. The literature contains not more than twenty reports of adenoma, the most recent being that of Warren.[20] In none of them is there any question of malignancy. These pathologic studies do not contain clinical information or suggestion of symptoms of hypoglycemia, and only one of their authors (Rollett[21]) goes so far as to speculate on the possibility of such tumors having physiologic significance.

REPORT OF CASE

History.—A physician, aged 40, had had an exploratory operation performed elsewhere in 1919 because of epigastric pain simulating peptic ulcer and, although nothing definitely abnormal was discovered, gastro-enterostomy was performed and the appendix was removed. After this the pain was somewhat relieved, so that the patient was able to resume an active surgical practice. He had been examined at the Mayo Clinic in February, 1922, and in January, 1925, on both occasions because of vague periodic pains in the upper abdomen. The results of these examinations were essentially negative. In the first of them repeated Wassermann tests were made before and after a provocative injection of arsphenamine; all were negative. The cerebrospinal fluid contained a normal number of cells and was negative to the Wassermann, Nonne and colloidal gold tests.

An attack of renal colic, in which two calculi were excreted, occurred in 1924. The urine at that time was found to contain sugar and, while none of the cardinal symptoms of diabetes existed, a qualitative dietary restriction was instituted. The diet was soon discontinued, and when we made our examination in January, 1925, the fasting blood sugar was normal: one specimen of the urine was sugar-free, while others showed traces of sugar.

Table 1.—*Glucose Tolerance Test**

Time, Hours	Blood Sugar, *Milligrams for* Each 100 Cc.	*Urine* Sugar	Comment
0	68	0	Dextrose fed, 120 Gm.
½	242	+	
1	283	+	
2	223	+	
3	70	—	Total sugar excreted, 5 Gm.

Basal metabolic rate, +8.
Basal respiratory quotient, 0.70.

* Metabolism data obtained by Dr. Henry Ulrich in April, 1926.

The symptoms that prompted the third and last visit to the Mayo Clinic (Oct. 29, 1926) had been present for eighteen months, beginning as sudden attacks of faintness and weakness, with paresthetic numbness of the tongue and lips. As time passed these attacks occurred more frequently and were more severe, producing greater weakness, profuse perspiration and trembling. They came when meals were delayed or if unusual exertion was undertaken, and the patient himself discovered that he could prevent them by eating between meals and by taking sweet drinks.

The first attack resulting in collapse came in November, 1925. The patient had been operating later than usual and, being overtaken by weariness, was soon mentally confused and collapsed in a stupor. Attendants thought he had lost consciousness, but he was able to swallow an egg-nog, which an assistant gave him, and in a few minutes had completely revived. The similarity of this phenomenon to an insulin reaction led the patient and his associates to the belief that he was affected with spontaneous hyperinsulinism, and from this time on he consistently took food at frequent regular intervals.

In March, 1926, in the course of an examination by Dr. H. L. Ulrich of Minneapolis, a brief fast preliminary to a clinical test resulted in coma, which lasted two hours. Resuscitation was effected only by an intravenous injection of dextrose. Blood sugar was not determined during the coma, but a test meal of dextrose was given later and the results of this on the blood sugar as well as other data were presented by Dr. Ulrich at the meeting of the Minnesota Society of Internal Medicine, held in Rochester in November, 1926 (table 1).

As time passed, the tendency to hypoglycemia increased so that the interval between the patient's taking food had to be decreased and it became necessary for his wife to watch when the patient slept and put candy into his mouth at the first sign of unusual behavior. The body weight fell from 170 to 117 pounds (from 77 to 53 Kg.) during the first year (1918); it rose somewhat after the operation in 1919, but continued below normal until the spring of 1926. Then a gradual gain began and 25 pounds (11 Kg.) was added in the next six months.

The epigastric distress, less severe than formerly, persisted as heartburn and flatulence after eating. During the past year the patient had had four attacks of pain, each lasting several days and similar to the former trouble. The pulse rate, which for years had been slow, about 60 a minute, had been accelerated to 90 or more for the past year. Numerous furuncles had appeared during the year. Other details of the history are of little significance. The family history, however, contains the interesting information that a paternal cousin had died with symptoms which resembled those experienced by the patient. This cousin had been attended by Dr. W. J. Mayo and Dr. J. B. Herrick, whose clinical diagnosis was myasthenia gravis. In this case necropsy was not held.

Examination.—The patient was well developed and somewhat obese; height, 5 feet 9 inches (175 cm.); weight unclothed, 161½ pounds (73 Kg.). The general appearance was healthy, except for a slightly grayish pallor. A small furuncle was situated behind the left ear, and an eczematous skin lesion affected the groins and genitalia. The thyroid seemed normal, as did also the heart and lungs. The pulse rate was 90. The systolic blood pressure was 110 and the diastolic 60. The abdomen was soft and nowhere tender. The liver edge, which was firm and rounded, could be easily palpated just below the costal margin. It was not tender. No sensory, motor or reflex disturbances could be determined. A roentgenogram of the skull showed nothing unusual; the sella turcica cast a normal shadow. The blood Wassermann test was negative; the urinalysis was negative; hemoglobin (Dare) was 70 per cent; erythrocytes numbered 3,860,000; leukocytes, 15,600 (lymphocytes 17 per cent, large mononuclears 1.0 per cent, transitionals 3.0 per cent, neutrophils 77.0 per cent, eosinophils 1.5 per cent, basophils 0.5 per cent).

CLINICAL STUDIES

The Hypoglycemic Reaction.—After the mixed noon meal of October 31, sugar was withheld. The patient remained in bed under constant observation. The systolic blood pressure was 110 and the diastolic 60. The first symptoms appeared three hours and twenty minutes after the meal, when the blood sugar[22] had fallen to 0.055 Gm. per hundred cubic centimeters. There was a sense of apprehension and depression, with vague paresthesia. Fifteen minutes later, perspiration and tremor were noted. At four hours the blood sugar had fallen to 0.036 Gm. per hundred cubic centimeters, the face twitched, speech was incoherent, and the systolic blood pressure was elevated to 134 while the diastolic remained at 60. At four hours and fifteen minutes the blood sugar reached 0.027 Gm. per hundred cubic centimeters; the patient was stuporous and no longer able to speak, tossing about with irregular, convulsive jerkings that affected the entire body. Fifteen grams of dextrose was fed by mouth, and in ten minutes rational conversation was resumed The blood sugar was 0.065; the systolic blood pressure was 122 and the diastolic 48.

Metabolic Data After Test-Meals of Dextrose and Fructose.—The usual routine for postprandial observations of metabolic rate, respiratory quotient and blood sugar could not be followed because of the necessity for feeding at frequent intervals. Consequently the first observations in the experiments recorded in tables 2 and 3 are the conditions existing at stated intervals after a given feeding and are not "basal." The patient remained at rest in bed during these experiments.

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[20] Warren, S.: Adenomas of Islands of Langerhans, Am. J. Path. **2**: 335-340 (July) 1926.

[21] Rollett, Humbert: Ueber ein reines Adenom des Pankreas, Frankf. Ztschr. f. Path. **10**: 268-277, 1912.

[22] Venous blood was used for all blood sugar determinations; the Folin-Wu technic was followed

The administration of 100 Gm. of dextrose one hour after a feeding of 15 Gm. of carbohydrate (November 3, table 2) caused the blood sugar to rise in one-half hour from 0.085 to 0.218 Gm., and traces of sugar to be excreted in the urine. By three hours the blood sugar had fallen again to 0.031 Gm. The metabolic rate, + 27 at the start, mounted to + 43 in one hour; the respiratory quotient rose from 0.90 to 1.06 in two hours. The blood phosphates declined from the preliminary concentration of 2.65 mg. per hundred cubic centimeters to 2.11 mg.

TABLE 2.—*Glucose Test, Nov. 3, 1926*

Time, Hours	Blood Sugar, Milligrams for Each 100 Cc.	Blood, Inorganic Phosphates, Milligrams for Each 100 Cc.	Urine, Sugar	Total Calories Each Hour	Metabolic Rate, Du Bois Standard	Respiratory Quotient	Comment
0.0	85	2.65	0	91.8	+27	0.90	15 Gm. carbohydrate one hour before, 100 Gm. dextrose at zero hour
0.5	218	2.55	Trace	95.9	+32	0.97	
1.0	...	. ..	..	103.0	+43	1.03	
2.0	214	2.11	+*	99.1	+38	1.06	
2.5	...	....	..	93.5	+30	1.04	
3.0	31	2.17	0	....	....	....	Reaction †

* 0.8 Gm.

† Weakness, tremor, blurred vision. Given 1 mg. epinephrine without benefit; complete relief after taking sugar.

TABLE 3.—*Fructose Test, Nov. 23, 1926*

Time, Hours	Blood Sugar, Milligrams for Each 100 Cc.	Urine, Sugar	Total Calories Each Hour	Metabolic Rate, Du Bois Standard	Respiratory Quotient	Comment
0.0	..	0	96.4	+30	0.89	15 Gm. carbohydrate one hour before, 100 Gm. fructose at zero hour
0.5	..	0	96.7	+30	1.08	
1.0	53	0	111.2	+52	1.05	
1.5	37	0	111.5	+52	1.08	
2.0	..	0	106.9	+45	1.01	
2.5	27	0	...	....	....	Reaction*

* Weakness, tremor, blurred vision at two hours and thirty-three minutes, counteracted by the administration of sugar.

In the fructose experiment, 100 Gm. of fructose was given by mouth one hour after a feeding of 15 Gm. of carbohydrate (November 23, table 3). The preliminary determination and a half-hour determination of blood sugar were unfortunately lost; at one hour the blood sugar was 0.053 Gm., and at two hours 0.027. Symptoms of hypoglycemia did not appear for two hours and thirty-three minutes. At this date, had the fructose been without effect, symptoms would certainly have occurred within one hour after its administration. The metabolic rate rose from + 30 to + 52, the respiratory quotient from 0.89 to 1.08.

Effect of a Fat Meal.—A fat meal consisting of 250 cc. of 40 per cent cream was fed two hours after the patient had ingested 30 Gm. of carbohydrate (November 6). The patient was not exhibiting symptoms of hypoglycemia, but the blood sugar was very low. Within thirty minutes extremely severe symptoms occurred, soon followed by complete loss of consciousness, so that an intravenous injection of dextrose was required for resuscitation.

Studies of Hepatic Function.—Bile formation was apparently normal. The stool was normally colored and did not contain an unusual amount of fat or other evidence of digestive disturbances.

The serum bilirubin was less than 0.3 mg. per hundred cubic centimeters by the indirect van den Bergh reaction.

Function tested by phenoltetrachlorphthalein (Rowntree, Rosenthal) was normal.

Fractionation of the nitrogen of the urine showed normal partition between urea and the other nitrogenous constituents (table 4). A similar fractionation of the nitrogen of the blood gave normal relationships (table 5). There was therefore no gross disturbance in the deaminizing function of the liver. In order to test this further the amino-acid alanine was fed in two experiments. The results of these appear to be within the normal range (table 6).

Effect of Epinephrine.—The thought that we might have to deal with a dissociated derangement of the liver whereby the glycogen function was alone disturbed prompted us to investigate the effect of injecting epinephrine. Normally, epinephrine mobilizes glycogen and, if glycogen stores are present, produces hyperglycemia. In one experiment (November 3) 1 mg. of epinephrine was administered at a time when the patient was beginning to manifest symptoms of hypoglycemia and the blood sugar was 0.031 Gm. The symptoms were not affected and sugar had to be given four minutes later to prevent collapse. In a second experiment (November 9) 1 mg. of epinephrine was injected at a time when the patient felt normal and the blood sugar was 0.056. This produced an unusually intense circulatory response but did not interrupt or delay the fall of the blood sugar. In twenty-four minutes the latter had reached 0.025, and sugar had to be given for resuscitation.

Effect of Solution of Pituitary.—Double strength solution of pituitary was injected subcutaneously in dosages of 1 cc. In one experiment (October 30) the first injection was made at a time when the blood sugar was low (0.031 Gm.). Symptoms appeared, and forty minutes later a second injection was made. Sugar was required within five minutes after the second injection. In a second experiment (November 2) a series of three injections was carried out, when the blood sugar was high (0.131 Gm.) at the outset. This did not prevent the usual rate of fall of the blood sugar or delay the development of symptoms of hypoglycemia.

TABLE 4.—*Partition of the Nitrogen of the Urine**

1926	Total Nitrogen, Gm.	Urea Nitrogen, Gm.	Ammonia Nitrogen, Gm.	Uric Acid Nitrogen, Gm.	Creatinine Nitrogen, Gm.	Creatine Nitrogen, Gm.
11/ 4	5.90	4.88	0.21	....	....	....
11/ 5	3.92	3.41	0.24	0.31	....	....
11/ 6	4.89	3.69	0.11	0.43	....	....
11/ 7	9.50	7.39	0.51	0.33	....	....
12/31	3.40	....	....	....	0.25	0.03

* No attempt was made to maintain a constant nitrogen intake.

TABLE 5.—*Partition of Nonprotein Nitrogen of the Blood*

	Milligrams for Each 100 Cc., Average	Number of Determinations
Urea nitrogen	10.3	9
Creatinine nitrogen	0.4	1
Uric-acid nitrogen	0.9	2
Amino-acid nitrogen	6.0	5
Total nonprotein nitrogen	26.6	8

TABLE 6.—*Disposal of Ingested Alanine**

Date, 1926	Experiment	Time, Hours	Alanine Fed, Gm.	Total Nitrogen, Gm.	Combined Urea and Ammonia Nitrogen, Gm.	Amino-Acid Nitrogen, Gm.	Blood, Amino-Acid Nitrogen, Milligrams for Each 100 Cc.
11/11	1	3	..	0.66	....	0.009	5.7
		3	25	3.14	....	0.334	7.9
		18	..	6.00	....	0.233	5.3
11/28	2	8	..	3.59	2.39	0.030	4.4
		8	40	4.59	3.33	0.307	...
		6	..	3.36	2.81	0.164	6.5

* d-l alanine, commercial.

Sugar Requirement.—When the patient was admitted to the hospital he was eating three ordinary meals and taking from 10 to 20 Gm. of candy at intervals of from two to three hours. As time passed it became necessary to increase the sugar feedings and to shorten the intervals between them. November 10, the requirement for twenty-four hours was determined by means of a Woodyatt[23] pump and a duodenal tube. No other food was given during the course of the experiment. When the pump delivered 20 Gm. an hour the patient remained normal, but with an injection rate any lower than this symptoms promptly appeared. The same procedure repeated November 26 revealed that no less than 25 Gm. of dextrose was required hourly.

EXPLORATORY OPERATION

As medical treatment did not offer any hope of controlling the disease and the patient desired a surgical exploration, an operation was performed, December 4, by Dr. W. J. Mayo. The pancreas was large, hard and nodular with the exception of the head, which seemed fairly normal. A tumor could be felt in the right lobe of the liver and a small hard nodule near it close to the surface. The gallbladder was buried in adhesions. The old gastro-enteric anastomosis appeared satisfactory. The gallbladder was removed, showing on pathologic examination chronic catarrhal inflammation and papillomatosis.

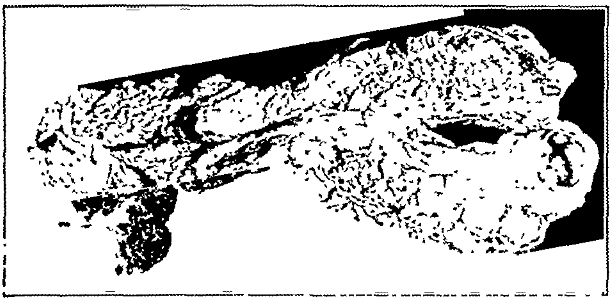

Fig. 1.—Pancreas with distal half split lengthwise: The tumor is in the last quarter and the cyst is surrounded by tumor substance.

A small bit of liver was removed for analysis for glycogen. This was immediately frozen in a mixture of ether and carbon dioxide snow, weighed in a frozen condition in a stoppered vacuum weighing bottle, and its glycogen was determined by Pflüger's method. The result, as glycogen, was 3.49 per cent.

The anesthetic (ether) was started at 8 a. m. The patient had been given 30 Gm. of dextrose at 7:30 a. m., and nothing more until the completion of the operation at 9:15 a. m. The blood at 7:30 a. m. contained 0.101 Gm. of sugar for each 100 cc., and at 9:15 a. m., 0.138 Gm. At this date (December 4) marked hypoglycemia was ordinarily manifested within an hour and a half after the ingestion of 30 Gm. of sugar.

SUBSEQUENT COURSE

It was expected that the postoperative management would offer a serious problem. Nausea would prevent the giving of sugar by mouth; enemas might not be retained and in any case would not provide the means of absorbing enough sugar to meet the enormous requirement. The conspicuous superficial veins were few, and frequent puncturing of these would soon result in their obliteration. The problem was solved by maintaining a continuous intravenous injection of 20 per cent dextrose solution with a Woodyatt pump. A cannula was tied in a vein of the forearm and the pump was in operation within a few minutes after the patient's return from the surgical pavilion. It was necessary to continue this injection for sixty-three hours. Attempts to give sugar or other food by mouth earlier than this always provoked vomiting. Only one vein was used, and the patient did not suffer discomfort until near the end of the period, when the arm became somewhat swollen and painful.

The rate of injection required to maintain the blood sugar was at first astonishingly low; 7 Gm. of sugar an hour sufficed for sixteen hours, whereas before the operation the requirement had been 25 Gm. an hour as determined by continuous administration by duodenal tube, and the patient was eating food with a total sugar value of 750 Gm. a day (31 Gm. an hour). The requirement gradually rose, until toward the close of the period of injection it approached these high figures. After the resumption of oral feeding more sugar was needed than ever before, the requirement finally reaching 1,000 Gm. a day.

With the information obtained at the operation in mind, we made the tentative diagnosis of carcinoma of the islands of Langerhans, with metastasis to the liver and overproduction of insulin by the cancer tissue. Accordingly we advised the use of radium over the liver in an attempt to inhibit the functioning of the cancer. This, however, was without appreciable influence on the sugar requirement.

The patient's weight, October 29, was 161½ pounds (73.2 Kg.); November 22, 171 pounds (77.6 Kg.), and December 29, 168 pounds (76.2 Kg.). He died, Jan. 3, 1927, for no apparent reason other than exhaustion. He was not in a state of hypoglycemia at the time; at least, he was conscious and entirely rational to within a few minutes of death.

POSTMORTEM EXAMINATION

The examination was begun two hours and twenty-five minutes after death. The important features in this examination may be thus summarized: The liver was definitely enlarged, weighing 3,392 Gm. Its surface was smooth and shining except in the upper portion of the right lobe. The normal reddish color was partially replaced by an unusual pearly grayness, and the capsule was shiny and glistening. The consistency was distinctly increased, doughy, but not soft. The lower anterior margin was rounded. There were a few foci with a faint yellowish tinge. On the upper surface of the right lobe were found two tumors (fig. 1), one slightly roughened on its surface, yellowish brown and raised approximately 3 mm. above the surrounding capsule. One of these measured 5 cm. in diameter and the other, a short distance from it, 3 cm. in diameter. On section, the surface of these tumors was yellowish gray with a definite reddish tinge in portions. The glistening appearance seen on the surface of the liver was present on section. On the inferior surface of the right lobe was a similar nodule 6 cm. in diameter; in the inferior margin of the left lobe was a smaller tumor a few millimeters in diameter, and at the upper portion of the right lobe mesial to the two larger ones first mentioned, another, 1.5 cm. in diameter. In the region of the latter there was a definite nutmeg zone of congested liver extending to the capsule. All these tumors were similar in markings and all were rounded, and could be easily enucleated. Lymph nodes in the region of the stomach and pancreas were irregularly enlarged, firm, and on section grayish white.

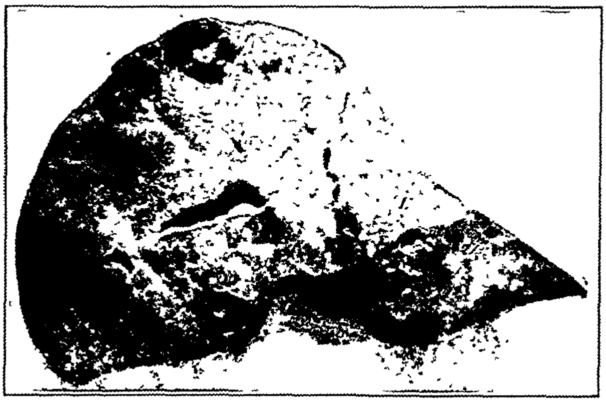

Fig. 2.—Liver with tumor nodules in superior portion of right lobe.

The pancreas weighed 120 Gm. The head and greater portion of the body appeared normal both on the surface and on section. The tail of the pancreas was definitely increased in consistency and curved downward against the left side of the spinal column. There was distinct thickening of this portion for fully 5 cm., and the surrounding peripancreatic fat was adherent in an irregular manner to the pancreatic pulp. On

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23. Woodyatt, R. T.: The Method of Timed Intravenous Injections, J. Biol. Chem. 29: 355-366 (March) 1917.

ish yellow rounded nodules varying from a few millimeters to 1.3 cm. in diameter, surrounded by varying amounts of dense grayish connective tissue. At the extreme tip was a round cyst 1.5 cm. in diameter (fig. 2), having a moderately thick wall and containing clear fluid. Small yellowish nodules projected into the lumen of this cyst. The pancreatic duct was not dilated and contained a thick mucoid substance.

The kidneys were slightly increased in size (left, 186 Gm.; right, 160 Gm.). There was a slight grayish tinge to the outer surface and, on section, to the cortices, suggesting the appearance of the liver but with a more distinctly reddish brown.

Microscopic study of the pancreatic tumor by paraffin sections stained with hematoxylin and eosin showed the following:

In the tail of the pancreas, pancreatic tissue was replaced extensively by focal masses of tumor cells which were embedded in a dense connective tissue stroma and arranged in irregular strands and islands (fig. 3). These cells were somewhat irregular in size and shape, and staining reaction, as well as arrangement, but their resemblance to the cells of the islands of Langerhans was striking. The cytoplasm was well stained, having a slightly basophilic reaction. Nuclei were enlarged and as a rule showed distinct nucleoli, with the nuclear chromatin irregularly distributed in the form of basophilic granules. The cell masses were arranged about capillaries, usually in two rows. Occasionally an alveolar arrangement was suggested, but more often there was no evidence of glandular structure. In the midst of the tumor and its connective tissue, no islands could be demonstrated. In the adjacent pancreatic tissue, occasional degenerating islands were found. The general resemblance of the tumor cells to island tissue in arrangement, staining reaction and size was noteworthy. In certain portions of the tail of the pancreas the tumor cells were degenerating, this degeneration varying from actual necrosis with polymorphonuclear infiltration to hydropic change in the cells and evidences of slow lysis. There was conspicuous absence of adipose tissue.

The adjacent lymph node showed similar but denser masses tumor cells, arranged in irregular strands and islands and ring a striking resemblance morphologically to normal lands of Langerhans. Necrosis was not so apparent; but neither were capillary branches, and blood sinuses were conspicuously absent

The nodules in the liver were composed of similar cells, similarly arranged, but in several areas in the smaller nodules these cells were darker staining, better preserved and in close association with sinuses filled with blood (fig. 4). In these smaller nodules, numerous mitotic figures were present, although they were not found in the primary tumor or in the other metastatic growths. The tumor cords and islands bore the same relation to these sinuses as the liver cells, except that the sinuses were widely dilated and deeply congested. There was no necrosis in these areas. The larger nodules in the liver showed areas of necrosis and portions in various stages of degeneration. There was no evidence of dense connective tissue.

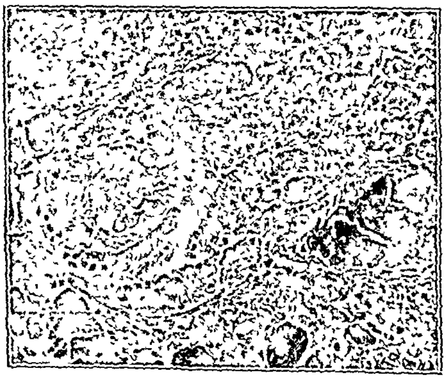

Fig. 3.—Pancreas and tumor cells (× 120).

The small nodule in the mesentery showed a few collections of tumor cells similar to those described, and a large encapsulated mass of partially calcified necrotic débris containing numerous cholesterin crystals.

The cells of the convoluted tubules of the kidney were distended with some clear substance which did not stain with sudan III. The hepatic cells were similarly distended and, by Best's carmine stain for glycogen, large amounts of this substance were shown to be present in these clear cells.

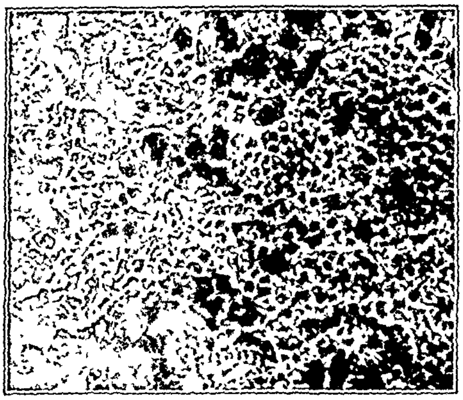

Fig. 4.—Nodule in liver; carcinomatous masses closely associated with blood sinuses (× 250).

From the anatomic examination alone it seems fairly clear that a neoplasm had been present for a long time in the tail of the pancreas and that it had grown so slowly that degeneration had almost kept pace with growth. The large amount of connective tissue, the lack of blood sinuses, the presence of an area of old fat necrosis in the adjacent omentum, and the degeneration and necrosis of the tumor itself, with cyst formation, are evidences of this fact. In the lymph nodes there was a fresher growth of cells but insufficient vascularity for rapid absorption. In the liver nodules, however, the cells were the freshest in type, most rapidly growing and closely associated with large blood sinuses. If absorption of any specific product had taken place from tumor cells it would be presumably from these freshly growing liver nodules. Huge deposits of glycogen evidently account for the increased weight and peculiar consistency and color changes in the liver and kidneys.

The structural resemblance of the cells of this neoplasm to those of the islands of Langerhans in the pancreas, as well as the absence of any similarity of this tumor to the usual types of pancreatic and hepatic growths, gives force to the conclusion that this is a carcinoma arising primarily in the island cells.

ANALYSIS OF LIVER FOR SUGAR AND GLYCOGEN

A sample of the noncancerous portion of the liver obtained at necropsy was preserved in a freezing mixture of ether and carbon dioxide snow. In a frozen condition in a stoppered vacuum weighing bottle it weighed 17.33 Gm. This was analyzed for free sugar and for glycogen. The residue of the extract with 95 per cent alcohol dissolved in water (free sugar) had practically no reducing power. The glycogen content of the sample, determined by Pflüger's method, was 8.25 per cent.

EXTRACTION OF TISSUES FOR INSULIN

Parallel extractions were made of 43.8 Gm. of noncarcinomatous hepatic tissue and 44 Gm. of a carcinomatous nodule taken from the liver. These tissues were also preserved in the ether-carbon dioxide freezing mixture. A method described by Best and Scott[24] was followed. The final precipitate from the liver extract, after drying, weighed 33 mg., that from the cancer 57 mg. These precipitates were dissolved in very dilute sodium hydroxide, p_H 8.0, and then brought to p_H 3.5 by the addition of hydrochloric acid. The resulting solutions were clear and colorless. The material from the noncarcinomatous tissue was made up to a total volume of 6 cc., that from the tumor to 12 cc.

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[24] Best, C. H., and Scott, D. A.: The Preparation of Insulin, J. Biol. Chem. 57: 709-723 (Oct.) 1923.

The insulin activity of these extracts was tested on the previously standardized rabbits B and G (table 7). The animals were on a ration of oats and cabbage. Food was withheld for twenty-four hours before each test and the tests were made not oftener than once every four days. Blood was taken by slitting the marginal vein of the ear for analysis for sugar by Somogyi's[25] modification of the Schaffer Hartmann method; 0.2 cc. of blood was used for each analysis. The rabbits were first injected with insulin-Lilly and subsequently with the extracts. In all experiments they were handled very carefully in order to avoid fluctuation in blood sugar due to excitement.

Table 7.—*Effect of Tissue Extracts on the Blood Sugar of Rabbits*

Experiment	Material Injected	Blood Sugar, Milligrams for Each 100 Cc: 0 Hour	1.5 Hours	3 Hours	5 Hours
	Experiments on Rabbit B; Weight, 2,600 Gm.				
1	3 units insulin-Lilly*	134	..	30	...
2	2 units insulin	117	72	76	81
3	½ total extract liver	127	125	124	129
4	¼ total extract liver tumor	121	47	79	77
5	⅛ total extract liver tumor	118	60	74	107
	Experiments on Rabbit G; Weight, 2,200 Gm				
1	2 units insulin	109	72	81	100
2	½ total extract liver	135	124	117	117
3	⅛ total extract liver tumor	127	63	61	89

* Clinical units.

The extract made from the noncarcinomatous portion of the liver was without appreciable effect on rabbit B and of doubtful effect on rabbit G. The extract made from the tumor in the liver produced unequivocal lowering of the blood sugar in both rabbits. The effects with an injection of one eighth of the total extract from the hepatic tumor resembled that produced by the injection of 2 clinical units of the insulin preparation, from which it is estimated that the carcinomatous tissue yielded at least 40 units of insulin for each hundred grams.

COMMENT

The evidence here of hyperinsulinism from carcinoma of the islands appears to be completed by the observations at necropsy and the demonstration of the insulin action of the extracts of the cancer. Nevertheless, a few questions arise for consideration.

There are very few instances on record in which cancer of any origin has retained the function of the parent cell. Tumors of the liver may produce bile; in a famous case of von Eiselsberg[26] the development of metastatic cancer from the thyroid corrected myxdema; carcinomas of the suprarenal cortex have been associated with hirsutism and other evidences of hormonal disturbance. In some of these cases there may be legitimate doubt whether the tumor was a metastatic neoplasm or merely an embryonic rest, undergoing hypertrophy and hyperplasia. In our case there is no such doubt. Carcinoma was present in the pancreas, and this bears every morphologic evidence of being of greater age than the growths in the liver and lymph nodes.

The extracts of the carcinoma in the liver contained from one fourth to one half as much insulin as is ordinarily obtained on extracting pancreas. In order to avoid being led into error by insulin activity such as may be obtained from normal tissues other than pancreas, we extracted a noncancerous portion of the liver by the identical procedure applied to the tumor tissue. The extract of the liver was inert; that of the tumor, very active. A more refined technic should have demonstrated some insulin in the liver, but with it the yield from the tumor would have been proportionately greater. The possibility that malignant growths generally yield insulin has been investigated by Roffo and Correa,[27] by Cori[28] and by Cramer, Dickens and Dodds.[29] Roffo and Correa reported obtaining very small amounts of insulin (from 8 to 12 units) from large amounts of spindle-cell sarcoma of white rats, but Cori and Cramer, Dickens and Dodds could not extract insulin from a variety of malignant tumors.

The term "hyperinsulinism," so far as it implies an abnormally large total production or liberation of insulin, is not entirely satisfactory, because the symptoms of hypoglycemia might be accounted for without assuming a massive supply of insulin. If the product of the carcinoma cells were toxic, its activity could be disproportional to its amount, a supposition somewhat similar to the hypothesis of Plummer[30] in the case of the product of the thyroid in exophthalmic goiter. Against such a view should be set both the observation that the symptoms exhibited by the patient were indistinguishable from those commonly produced by the injection of an insulin preparation, and the fact that the extract made from the tumor behaved exactly like an insulin preparation on injection into rabbits. A more plausible possibility is that small amounts of insulin were being liberated continuously whether the blood sugar was high or low, that is, irrespective of the need for insulin. Jordan's[31] work furnishes indirect proof that the secretion of the normal pancreas is regulated by the need for it, and a considerable amount of evidence suggests that such regulation is at least in part neurogenic.[32] The metastatic tumors in our case were released from nerve control by virtue of their situation, and the influences which ordinarily govern insulin liberation may have had no effect on them. They would therefore function unrestrainedly and continue to liberate insulin whether the blood sugar was rising or falling. The cancer in the pancreas showed every sign of slow growth and age. It must have been present for years without producing symptoms of hyperinsulinism. The latter developed only during the last eighteen months; that is, at the time when metastasis may be expected to have occurred. This time relationship suggests that the abnormal insulin production was due less to the primary tumor than to the metastatic, and the examination of the tumor leads to the same

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[25] Somogyi, Michael Notes on Sugar Determination, J Biol Chem **70**: 599-612 (Nov) 1926

[26] Von Eiselsberg, A F Die Krankheiten der Schilddrüse, Deutsche Chirurgie, Stuttgart, Enke, 1901, p. 191.

[27] Roffo, A H , and Correa, L M Presence in Malignant Growths of a Substance Resembling Insulin, Prensa med argent. **13**: 668 (Dec. 20) 1926, abstr. J. A M A. **88**: 767 (March 5) 1927.

[28] Cori, G T The Insulin Content of Tumor Tissue, J. Cancer Research **9**: 408 410 (Sept) 1925

[29] Cramer, W , Dickens, F , and Dodds, E C Insulin in Normal and Cancerous Tissues, Brit. J. Exper. Path. **7**: 299 301 (Oct) 1926.

[30] Plummer, H S · Functions of the Normal and Abnormal Thyroid Gland, Oxford Medicine, New York, Oxford University Press, 1922, pp 839 873.

[31] Jordan, E M The Effect of Injected Glucose on Tolerance, Am. J Physiol **80**: 441 449, 1927

[32] Britton, S W Studies on the Conditions of Activity in Endocrine Glands XVII. The Nervous Control of Insulin Secretion, Am. J. Physiol **74**: 291 308 (Oct) 1925 Brugsch, Theodor, Dresel, Kurt; and Lewy, F. H : Zur Stoffwechselneurologie der Medulla oblongata II. Experimentellar Beitrag zur Regulation des Zuckerstoffwechsels in der Oblongata, Ztschr f. d. ges exper Med **25**: 262 270, 1921 Clark, G A Interrelation of Parathyroids, Suprarenals and Pancreas, J. Physiol **58**: 294 301 (March) 1924; The Influence of the Vagus on the Islets of Langerhans· I Vagus Hypoglycemia, ibid **59**: 466 471 (March) 1925, Influence of Vagus on Islets of Langerhans Effect of Cutting the Vagus upon Sugar Tolerance, ibid **61**: 576 582 (Aug) 1926 Cramer, Dickens and Dodds (footnote 29) Doppler, K , and Steinmetzer, K Hypoglycemia After Elimination of Sympathetic Innervation of Pancreas by Phenol, Wien klin Wchnschr **39**: 441 442 (April 15) 1926. De Corral, Jose M : Die Abhangigkeit der inneren Sekretion des Pankreas vom Nervensystem, Ztschr f Biol **68**: 393-418, 1918 Tournade, A , Chabrol, M , Hermann, H , and Perrin, Marie· Hypoglycemie par cocainisation bulbaire, Compt. rend. Soc. de biol. **94**: 582 584, 1924

Of nineteen patients in whom *Streptococcus faecalis* as recovered, seventeen gave medical histories of astro-intestinal disturbances.

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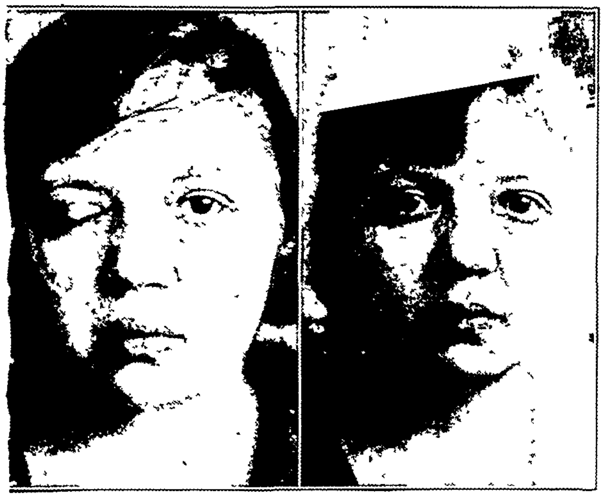

Fig. 1 (case 1).—Appearance of patient before and after treatment.

In fourteen cases, the teeth showed definite infected reas roentgenographically. These teeth were opened, nd cultures taken from them showed infection. They ere treated, and subsequent cultures were found erile and remained sterile. This root therapy was ntinued over a period of eight months. The extraction of all pulpless teeth should be condemned, for ere is no reason why a carefully trained operator annot save many teeth that are needlessly extracted.

REPORT OF CASES

Case 1.—Mrs. A. B., aged 23, with one child, an infant 4 onths old, came to the eye clinic of Mount Sinai Hospital, pril 9, 1923. She had had pain and redness of the right eye or two days. Examination showed a marked ciliary infection, eposits on Descemet's membrane, a very deep anterior chamer, pupil dilated and irregular. The media were so hazy that he fundus was not visible. The deposits on Descemet's memrane were very large and numerous, and looked like mutton at. Vision: right eye, movements of the hand; left eye, 0/50.

The diagnosis was not difficult. This was a typical case of uveitis. It is the etiology in such cases that usually is obscure. In this case the Wassermann reaction was negative. A tuberculin skin test was also negative. Transillumination of the asal sinuses was negative. The patient was referred to me for dental examination, and I reported as follows:

"Oral examination showed bridgework on the upper and lower teeth. Roentgenographic examination showed many infected teeth underneath this bridgework. Advised the removal and culture of the infected teeth."

Local treatment (atropine and hot compresses) was given for two days without improvement. Salicylates in increasing doses during the next nine days produced slight improvement. The pain was relieved and the infection reduced, but the vision was still obscured by haziness of the cornea and cloudiness of the aqueous and vitreous. Deposits on Descemet's membrane stood out as huge gray spots, covering nearly the whole area of the cornea.

Eleven days after treatment was begun, four teeth were extracted. Within seven hours there was a definite and decided improvement, noticeable to the patient herself. The vision suddenly cleared up. She could even read print, despite the fact that the eye was under the influence of atropine. April 25, five days later, the vision of the right eye was 20/70; there were still numerous deposits on Descemet's membrane, but the cornea between the spots was clear, and the fundus could easily be seen with the ophthalmoscope.

It must be noted that salicylate treatment had been stopped at the time dental treatment was begun, because the patient was nursing her infant and the medication was apparently affecting the child.

From this time on, improvement was steady and continuous. More teeth were extracted until all infected foci were removed. The big gray deposits were absorbed, and replaced by small brown pigmented spots, which in turn gradually disappeared, and the patient was discharged, July 20, without active signs of eye disease. At that time her vision was:

Right eye, 20/50 with 1 sph. — cyl. 2/75 ax 180 — 20/40 + 2;
Left eye, 20/50 with — 2 cyl. axis 180-2/40 + 2.

There is no record of a recurrence since then (1923).

Case 2.—Mrs. T. R., aged 50, seen Sept. 18, 1923, complained of severe pains on the left side of the face, paralysis of the right side of the face, and loss of sight in the right eye.

About eight years before, the patient had had a severe pain on the right side of the face. She consulted a physician, who, after a thorough examination, referred her to a dentist. The dentist reported that her teeth were in good condition. Medicinal remedies did not alleviate pain. She returned to her physician, who diagnosed the case as tic douloureux. A surgeon gave alcoholic injections into the nerve, after which she was sent to a sanatorium for rest. The pains grew worse. The surgeon stretched the nerve, as the patient described the operation. The pain subsided for about four weeks, then returned as severe as before. Electric therapy was resorted to in vain. Another operation was advised. This time a section of the sensory roots of the fifth nerve was performed; the pain subsided, but the patient developed a paralysis on the side of the operation, with loss of sight in that eye.

She was then referred to an ophthalmologist, who advised the extirpation of the eye; but this was refused though two other ophthalmologists concurred. Local treatment of the eye was continued for six years. One morning pain developed on the other side of the face, and, fearing another operation, the patient threatened suicide.

After I had examined the patient, I reported both to the physician and to the ophthalmologist that the patient gave a history of focal infection of dental origin, and that the roentgenograms showed impacted and many infected teeth that were the probable cause of the pain and of the eye symptoms. Neither concurred in this diagnosis. Firmly convinced of the accuracy of my diagnosis, with the consent of the patient, I proceeded to extract the teeth. The day following the extraction of the first tooth the patient reported to me that vision had returned to her right eye. I referred her to her ophtalmologist and asked for another examination, and his written diagnosis. He reported that the dentist had apparently performed a miracle. His diagnosis was neuroparalytic keratitis. The infected teeth were removed at intervals of forty-eight hours or more. Symptoms completely disappeared, and the patient was discharged as cured. A final examination of the eyes in December, 1926, showed a marked restoration of vision. The prompt subsidence of symptoms following the extraction of the infected teeth seems incontrovertibly to prove that the oral

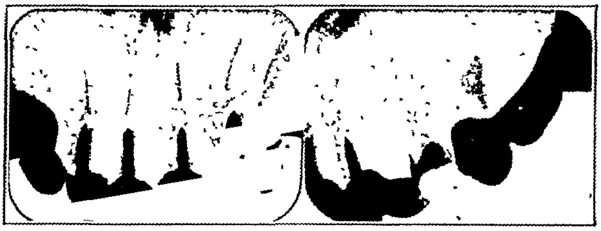

Fig. 2 (case 1).—Appearance of teeth before treatment.

focus, and each source of infection should be corrected. Then again there are patients who may have infected teeth with old dental histories but have never had a systemic disturbance. It is no less important to treat the teeth in these cases, as one cannot prognosticate the duration of this immunity.

To become experienced in hospital dentistry is now comparatively easy, as a result of the establishment of authorized dental departments in most of the more modern hospitals. Formerly, the dentist in the hospital was used only in emergencies, to extract teeth or to alleviate toothache. The importance of dentistry and its necessity in the hospital were forcibly brought to the attention of the medical profession by Dr. Charles Mayo and by the researches of Rosenow and Billings, and today as a result the medical profession realizes that dentistry means more than the filling and extraction of teeth—that it is a specialty of medicine.

Every hospital should have a dental department and at least one dental intern. The dentist should have the cooperation of the bacteriologic and pathologic laboratories. He should be permitted to make a diagnosis in all cases, making rounds with the physician. This will not only give the dentist an opportunity to see the medical side of cases but also enable the physician to grasp the dental aspect of a case at first hand. It will raise the standard of dentistry, and the dentist, on graduation, will as eagerly seek to be associated with a hospital as does the physician. The practice of dentistry in the hospital today is as important as any branch of medicine, and I believe the medical profession realizes this more and more each day.

Mount Sinai Hospital has a dental staff of thirty-seven men. The chief makes a dental examination in all ward cases. His report is part of the hospital record, and appears on the regular medical charts. There is also an outpatient department to care for dispensary cases, as the dental department in the hospital is for bed patients only. The dentists have received the sincere cooperation of the medical and surgical staffs.

The fact that a tooth has a porcelain or a gold crown or has a large filling does not mean that it is diseased. The crowning of teeth should be the last thing resorted to, but there are occasions when it seems that no other restoration will satisfactorily answer the purpose. As a rule, this type of tooth involves root work. Teeth that have been properly sterilized before filling and have had crowns made to fit accurately do not necessarily become infected. Crowned teeth are frequently justifiably condemned, not for the fact that they are crowned, but because of faulty root canal filling and the infection that these canals harbor at and around the root apexes. The crown should not be condemned for this, although it invariably is.

To make a thorough diagnosis, one should secure roentgenograms of all the teeth, and if there is any doubt as to a tooth, it should be roentgenographed from different angles. Before expressing an opinion as to the conditions found, one should examine the films in conjunction with the physical examination of the tooth in question, for I have seen many incorrect diagnoses rendered by commercial laboratories, although the roentgenograms were good. The fact that a root canal roentgenographically shows a complete filling does not mean that the canal is not infected, nor, when a canal is not completely filled, does it mean that it is infected. The roentgenograms do not always show pathologic conditions. I believe that the only way a root canal can be tested as to its pathogenicity is bacteriologically through the cultural method. The roentgen ray merely assists in the diagnosis, and is by no means conclusive.

To obtain cultures from a suspected tooth, complete asepsis must be maintained and every step carefully followed in the technic, if pure cultures are to be grown. Contaminations are due to faulty technic. I have taken more than 200 cultures with only two contaminations. When taking cultures from teeth to be extracted, the following method should be used: Paint the gums with tincture of iodine on the lingual and labial sides, then wash with alcohol, insert sterile cotton rolls or sponges labially and lingually, and hold them in place; remove the tooth, having the culture tube ready. Then pass a platinum loop through the flame a few times to make sure it is sterile; permit it to cool, take a smear from the apical end of the root, open the culture medium tube carefully, passing the lip of the tube over the flame; insert the loop into the medium, mixing it well; then pass the neck of the tube once more over the flame, and insert the cotton plug. If this is carefully done there is no reason why a pure culture should not be obtained.

In taking cultures from pyorrhea pockets, sterilize the gums in the same manner, hold the cotton rolls in position with the fingers, and insert the loop well into the pus pocket before adding the culture material to the medium. The same precautions regarding sterilization of the loop and the mouth of the culture tube should be observed.

The further treatment of the cultures should be entrusted only to a skilled bacteriologist, for on his work depends the correct etiologic diagnosis and on his technic the production of a potent vaccine, if such is required. The most convenient culture medium for the dentist is glucose bouillon.

The complicated laboratory technic involved in the isolation and classification of bacteria must necessarily take from three to four days. A bacteriologic diagnosis rendered in twenty-four or thirty-six hours is open to the suspicion of work inaccurately done.

After all the foci have been removed, the patient is given a rest for at least four weeks. In many cases there is a complete recovery from the systemic disturbances after the removal of the infected foci, but in some there is not. If the patient, on his return, does not show marked signs of improvement in his systemic condition, the use of an autogenous vaccine is indicated, given by the physician. In no instance has the use of autogenous vaccines been followed by deleterious results.

Vaccines should be administered every fourth or fifth day over a long period. Usually twenty injections constitute a series. The increase of dosage and the interval between doses will depend on the reaction of the patient to the vaccine. This must be determined by the physician.

In 200 cases, bacteria were found as follows: 144 cases, *Streptococcus viridans;* twenty-three, *S. salivarius;* nineteen, *S. faecalis;* six, *S. nonhemolyticus* number 2; two, *S. ignivis;* two, *S. mitis;* one, *S. equinus;* one, *Bacillus coli-communior,* and two, *Staphylococcus albus* (contaminations).

In all these cases there was a history of systemic disturbance, the diagnosis of which was made by the physician. Roentgenographically, all showed definite changes at and around the root apexes.

The dental history preceded the medical history.

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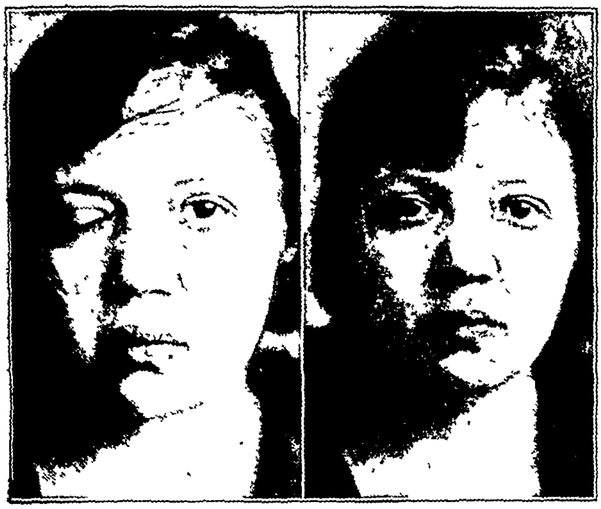

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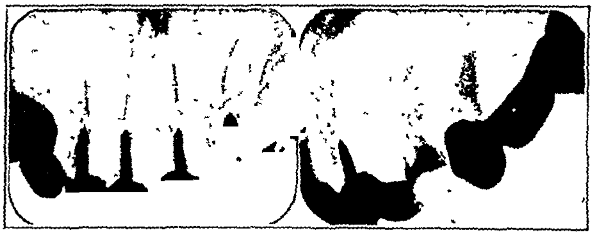

Fig. 2 (case 1).—Appearance of teeth before treatment.

infection was the primary condition and that the eye changes were secondary to it. Bacteriologic cultures from the infected teeth showed a pure growth of *Streptococcus viridans.*

Case 3.—W., a man aged 33, seen, May 9, 1918, had had pain in the right sacro-iliac joint and in the region of the sciatic nerve for the past three years. The most severe pain was at night. Medical treatment afforded only temporary relief. Electric treatment was of no avail.

Oral examination revealed the upper right second bicuspid partly broken down, but no pain was felt on percussion and the other teeth clinically looked normal. The upper right second bicuspid had been treated eight years before and up to the time of examination the patient had not complained of pain or annoyance from this tooth.

Roentgenographic plates showed that the upper right second bicuspid had a marked area of rarefaction around the apex of the roots with a very thin anterior wall. I advised the removal of this tooth, but the patient would not consent, saying that he was willing to go through with any treatment to save the tooth. I told him that the treatment would extend over a long period, and the final outcome might be extraction. He was willing to take this chance, so I proceeded with treatment.

The tooth was opened and considerable difficulty was experienced in reaching the apex. A sterile point was placed in the canal and left for forty-eight hours, after which it was removed and put into a culture tube of acetic acid broth. A pure culture of *Streptococcus viridans* was obtained in seventy-two hours. The root canal was sterilized, and after about eight weeks another culture was taken; this was sterile. The canal was sealed with a sterile dressing, and at the end of a week another culture was taken, which was also reported negative. Subsequent cultures taken thirty days later and again after three months having proved sterile, the canal was permanently filled. During the intervals between the cultures, the canal was occluded with a sterile dressing.

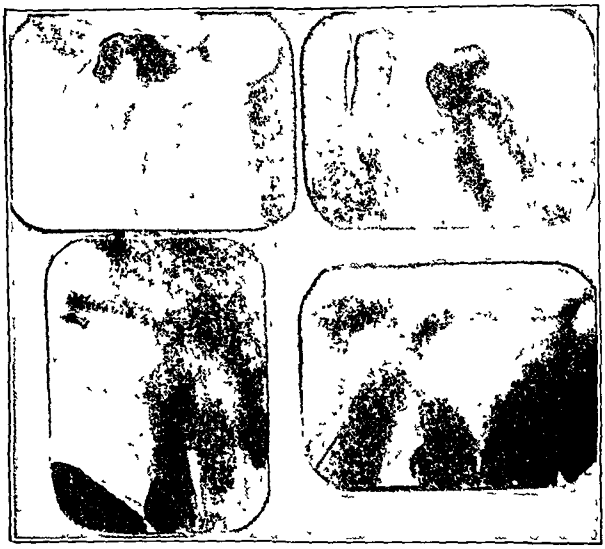

Fig. 3 (case 5).—Appearance of teeth.

Twenty-four hours after the root canal was first opened, the patient reported marked lessening of the sacro-iliac pain that had previously been interfering with sleep. Analgesic capsules (acetylsalicylic acid and amidopyrine) that had been taken daily over a period of two years were gradually discontinued. As the root treatment proceeded, both the pain and the insomnia gradually subsided. All symptoms had completely disappeared by the time the roots were finally filled. Seven years has elapsed without any recurrence of dental or medical disturbance.

Case 4.—Mrs. M. H. R., aged 50, examined, Dec. 5, 1923, had a marked pyorrhea, and bridgework on the upper and lower teeth. Roentgenographic examination showed many infected teeth which had been treated some eighteen years before. The infected teeth were extracted. The culture yielded *Streptococcus faecalis.* The patient was then referred to Dr. George Baehr, who reported the following medical history:

The gallbladder was removed in 1913. About this time the patient began to experience vague symptoms which were always referred to as chronic constipation. At frequent intervals she would feel very poorly, look pale and sallow, and become highly nervous and irritable. In addition, she would suffer from insomnia during these periods, and would complain of dull pains in different parts of her body. Recently during such a period of vague illness she had had pain in the right side of her back in the lower lumbar region, which radiated down the back of the right leg and ankle along the distribution of the sciatic nerve.

Physical examination was entirely negative, except for slight tenderness over the sigmoid. Systolic blood pressure was 130. In December, 1923, the patient again presented herself for oral examination and an apical abscess was found at the root of a tooth, from which a pure culture of *Streptococcus faecalis* was obtained.

The clinical picture consisted of two phases: First, periods of vague symptoms when the patient felt bad and looked poorly, and became nervous and irritable. This condition had always been referred to absorption from the intestinal tract, but a prolonged treatment with bowel irrigations failed to produce any permanent improvement. The second phase of the clinical picture consisted of attacks of pain such as the one just described, in the lower lumbar region, radiating along the distribution of the right sciatic nerve. These pains usually coincided with the periods of vague illness and suggested the possibility of a focal infection as the causative factor.

After removal of the infected teeth, the pains in the back and lumbar region cleared up and the patient seemed to be generally better. This improvement lasted about four weeks, after which the symptoms returned. It was suggested that autogenous vaccine be given. After the fourth inoculation the patient steadily improved, and was finally discharged as cured.

The patient had not had any recurrence of the systemic condition up to April, 1926.

Case 5.—J. J., a man, aged 43, born in the United States, admitted to Mount Sinai Hospital (service of Dr. Harold Neuhof), March 27, 1923, with a diagnosis of chronic ulcer of the leg, had had spondylitis and multiple joint infections for many years. In September, 1922, an incision had been made on the lateral aspect of the left leg for an abscess.

The patient was emaciated, with almost complete fixation of the vertebral column and other joint involvement. On the lateral aspect of the left leg there was a long wound reaching from the knee to the ankle, with a profuse discharge of pus. It was grossly contaminated, and no granulations were seen on its sloughing base. There was a marked odor.

Macroscopic oral examination, March 31, revealed the teeth in very poor condition, with many large fillings.

April 6, the roentgenographic diagnosis was: many infected teeth with antrum involvement. The lower right second molar had been removed. Adherent to the anterior root was a large (granuloma) pus sac. Cultures from the posterior root and abscess sac yielded *Streptococcus viridans* in pure culture, from which a vaccine was made.

April 12, the upper left second molar was removed. The mesial root was found to perforate the maxillary sinus. Shortly after the removal of the infected teeth the odor from the leg subsided.

Local treatment consisted in the use of various methods to improve condition of the wound, including surgical solution of chlorinated soda dichloramine, scarlet red, and silver nitrate solution. All these methods, however, resulted in only very temporary improvement, followed by exacerbations. It was therefore determined to discontinue all treatment except bland wet dressings. Thiersch solution was used for this purpose. There was slow improvement in the wound, and by May 1, it was healing in the lower half.

Stereoroentgenograms of the lower half of the left leg, including the ankle joint and the tarsal bones, showed a marked absorption of the lime salts (atrophy) of the lower third of the tibia and fibula, as well as of the lower tarsal bones. There was also marked swelling of the soft tissues, particularly adjacent to the fibula. The appearance of the bones was not that of an inflammatory process, such as osteomyelitis, but rather of the atrophy of disuse. It must be remembered, however, that early osteomyelitis is not always demonstrable by roentgen rays. Roentgenograms were also made of the upper two thirds of the left leg. These did not show abnormality in the upper two thirds of the tibia and fibula, and the apparent changes seemed to be due to the dressing. There was a moderate degree of arthritis in the knee joint.

The vaccine which was made from the lower right second molar was given, April 28, 1923 (first treatment), and continued to May 24, 1923.

Shortly after the vaccines were given, the patient gained 7 pounds (3.2 Kg.), and was discharged from the hospital, June 13, 1923.

In December, 1924, the patient reported that he had resumed business and had gained 27 pounds (12.2 Kg.).

Oct. 27, 1925, the patient again complained of loss of weight for which medical examination failed to discover any cause. The possibility of further dental infection was considered by the attending physician. Subsequent to the tooth extractions in 1923, bridgework had been done by another dentist. The patient was now again referred to me to determine the advisability of resuming vaccine treatment.

A macroscopic dental examination showed bridgework on the upper and lower teeth. A roentgenographic examination revealed definite infected areas on the roots of the teeth which acted as abutments for the bridgework. The pulps of these teeth had been removed in July, 1923, and the canals must, therefore, have become infected thereafter. The infected teeth were removed and cultures were taken, *Streptococcus viridans* being recovered. An autogenous vaccine was administered. The physician reported in June, 1926, that the patient had been steadily improving under treatment, and had gained in weight and returned to work.

CONCLUSIONS

1. Patients suffering from a focal infection which has its origin in the oral cavity do not necessarily have to have their teeth removed.
2. The medical as well as the dental history of the patient should be known to the dentist before any dental intervention is undertaken.
3. The dentist must have hospital training before he is properly equipped to diagnose such cases.
4. Full cooperation between the physician and the dentist is indispensable.
5. Every hospital should have a dental staff and at least one dental intern, as the training of the physician does not include dental diagnosis.
6. The dentists doing hospital work should organize and decide on a definite procedure in handling cases of focal infection that have their origin in the oral cavity. Not until then will they receive the full cooperation of the medical profession, which is not encouraged by the lack of unanimity of opinion among dentists at present.

5 East Fifty-Seventh Street.

Correlation Between Cultural and Biologic Change.—The cultural change over the past two thousand years has been extraordinarily great. Therefore there appears to be for this period no correlation between cultural changes and biological changes. Cultural evolution is thus not to be accounted for by biological evolution. Indeed, since the last ice age it may be that the vast cultural growth has taken place without any significant biological evolution in man. Once given a level of biological equipment, culture may go on increasing at a rapid rate without any biological change. The significance of the biological factor for the study of social evolution is thus somewhat more limited than is usually thought.—Ogburn: Social Change, pp. 141-142.

CLINICAL IMPORTANCE OF THE OS TIBIALE EXTERNUM, OR ACCESSORY TARSAL SCAPHOID

JAMES WARREN SEVER, M.D.
BOSTON

The frequency of supernumerary bones about the foot is not generally known, nor their significance well appreciated. In various special journals attention has been called to these anatomic abnormalities, but as a whole the medical profession is uninformed in regard to them, and therefore possibilities of mistakes in diagnosis still exist. The occurrence or presence of these

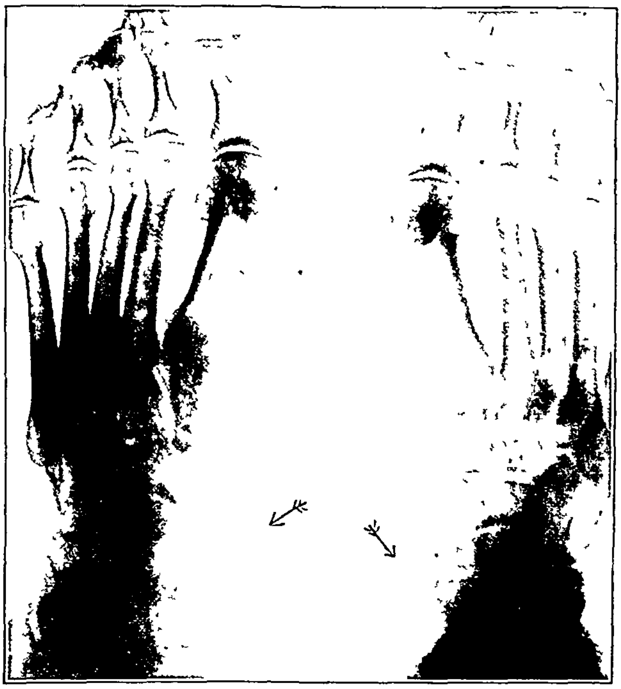

Fig 1.—The os tibiale externum is a true part of the skeleton, and occurs in about 10 to 14 per cent of otherwise normal feet. It is often unilateral rather than bilateral, and in many instances it has been mistaken for a fracture. It is essential that, in differentiating it from a fracture, there appear a true demarcation line between it and the scaphoid.

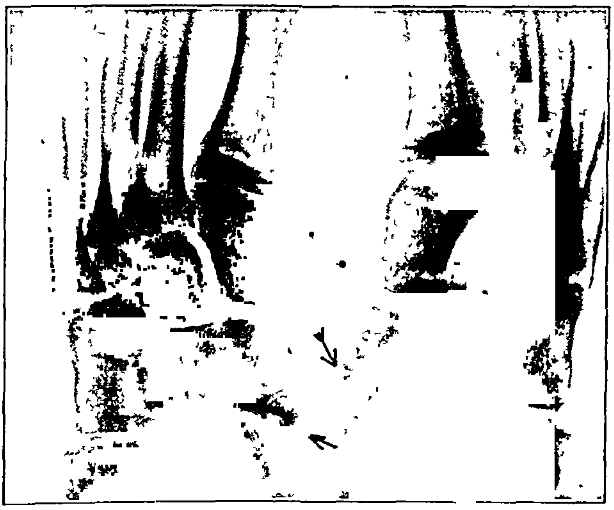

Fig 2.—Accessory scaphoids in a child, aged 11 years: feet badly pronated, scaphoids very prominent

extra bones has been known to anatomists for many years and their discovery was not dependent on the advent of the roentgen ray. They were discovered in the dissecting room. Vesalius in 1555, Bauhin in 1605 and Rosenmuller in 1804 described several of these accessory bones from anatomic dissections.

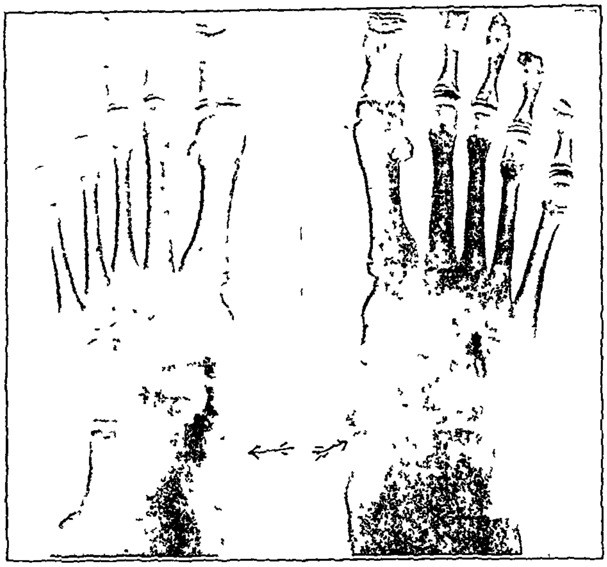

Fig 3.—Accessory scaphoid larger on the left than on the right, in a child, aged 15 years Clinically, the feet are badly pronated, with very prominent scaphoids

The special abnormality to which I call attention is the so-called os tibiale externum, or accessory scaphoid, first described by Bauhin in 1605. This bone has been confused with what was thought to be a sesamoid fibrocartilage in the tendon of the tibialis posticus as it goes under the scaphoid bone. Evidently, when such a condition existed there was an accessory scaphoid and not a true sesamoid, although Dwight[1] speaks of it as often appearing as a sesamoid bone.

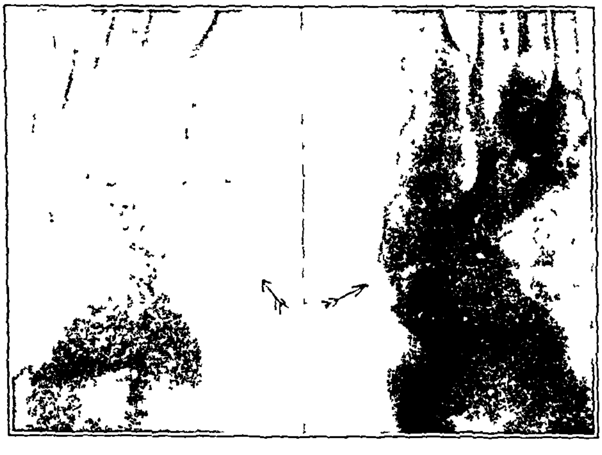

Fig 4.—Separate accessory scaphoid on the right and a fused one on the left, in an adult man Both feet badly pronated and bulging on the inner side

The presence of this abnormality can be easily detected by roentgen-ray examination of the feet. Geist[2] found that it existed in 14 per cent of a hundred patients who had never had any trouble with their feet. In his series of cases it was generally unilateral.

The bone may be unilateral or bilateral. It may be separate from the scaphoid on one foot and fused with the scaphoid on the other foot. Rarely is it seen before 9 years of age, but by 11 may be easily discovered in a roentgenogram of the feet. It can best be seen in the view taken from the top of the foot looking toward the sole. As the patient grows older, one accessory scaphoid may become larger than the other, and one may fuse with the body of the scaphoid, as mentioned, so as to make a large and rather hooked process presenting on the inner aspect of the scaphoid. This results in a very prominent and bulging inner border of the foot.

Zadek[3] has recently reported a number of cases in which he believes that the presence of the bony abnormality is also associated with a lack of proper insertion of the tibialis posticus tendon. He states that in these cases the tendon is entirely or mainly inserted into the scaphoid, and he considers this an anatomic abnormality. Normally, this tendon is inserted into the tuberosity of the scaphoid and internal cuneiform bones, and gives off fibrous expansions, one of which passes backward to the sustentaculum tali of the os calcis, others outward to the middle and external cuneiform and cuboid, and some forward to the bases of the second, third and fourth metatarsal bones. Zadek has not made clear in his report that the insertion of the tendon in his cases varied to any particular degree from the normal insertion, in that its major insertion is on the under side of the scaphoid in all feet.

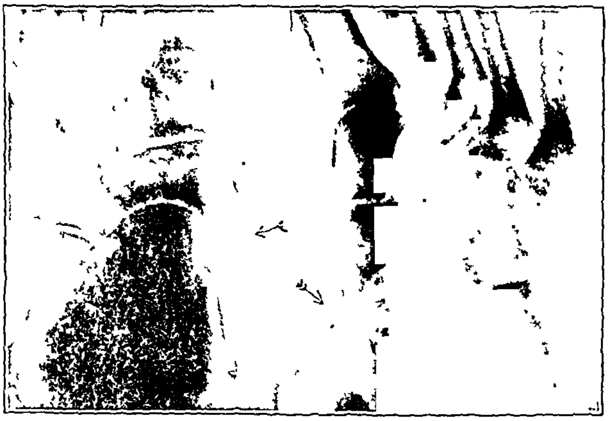

Fig 5.—Accessory scaphoid on the right, separate, and a fused one on the left, in an adult Both feet badly pronated, but without symptoms. These accessory scaphoids were discovered as the result of roentgen-ray examination for a fracture of the os calcis of each foot.

CLINICAL SIGNIFICANCE

There are several reasons why this abnormality should be familiar and easy to recognize:

1. The presence of such a condition is of medicolegal importance, especially following trauma, because of the possibility of its being mistaken for a fracture.

2. It is generally associated with badly pronated and weak feet, which are particularly resistant to corrective treatment.

3. In such feet, with accessory scaphoids, radical treatment is necessary, such as an astragaloscaphoid arthrodesis to prevent discomfort and increasing deformity, provided always that the feet are painful or otherwise a source of disability.

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[1] Dwight, Thomas: The Clinical Significance of Variations of the Wrist and Ankle, J. A. M. A. 47: 252 (July 28) 1906

[2] Geist, F. S.: Supernumerary Bones of the Foot, J. Am. Orthop. Soc. 12, number 3 (Jan.) 1915.

[3] Zadek, Isadore: Significance of Accessory Tarsal Scaphoid, J. Bone & Joint Surg. 8: 618 (July) 1926.

The patients' feet in these cases present a rather characteristic appearance. They are, as a rule, generally badly pronated, the scaphoids are markedly prominent, and the whole inside of the foot bulges. After seeing a few of these cases, one comes to suspect strongly the presence of an accessory scaphoid. A roentgenogram is always necessary to confirm the diagnosis and should always include both feet.

Palpation over the scaphoid may or may not cause pain, and often the scaphoid is seen and felt to be enlarged. The patient may not have known discomfort and disability at any age from this condition, but may go through life with symptomless, weak, flat and abducted feet. On the other hand, the feet may be painful, tender, and a source of weakness, leg and back ache, and general discomfort.

After experience with this type of foot showing this congenital abnormality or defect, one is led by lack of success in corrective treatment of the ordinary kind, namely, pads, plates, Thomas heels and exercises, to become radical and advise some operative procedure such as an astragaloscaphoid arthrodesis, as advocated and practiced by many orthopedic surgeons for the relief of deformities of this type.

Removal of the accessory scaphoid at the time of operation is indicated, and if it has become fused with the scaphoid itself, removal of this bony overgrowth is indicated. The tendon of the tibialis posticus should be shortened as well.

Following this procedure, fixation in a cast in an adducted and inverted position of the foot for six weeks, followed by a plate for temporary support and exercises, will give the patient a very good foot.

321 Dartmouth Street.

THE FUNDAMENTALS AND THE CLINICAL ASPECTS OF LIGHT TREATMENT

WITH ESPECIAL RELATION TO TUBERCULOSIS

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SARANAC LAKE, N. Y.

Recent medical literature discloses steadily increasing possibilities for light therapy. Rickets and tetany under its influence show increased phosphorus and calcium of the blood, while calcium deposition takes place in the epiphyses of the long bones. Clinically in tetany, the disappearance of such symptoms as carpopedal spasms, laryngeal spasms and convulsions frequently takes place after exposures to quartz mercury vapor arc and carbon arc irradiations. Lupus vulgaris has healed in a large percentage of cases after exposures to ultraviolet rays from various sources. Extrapulmonary tuberculosis in many forms yields to treatment with artificial light as well as with sunlight radiations. These results have been so clear cut in a large number of cases that a knowledge of light and its clinical applications is fast becoming important to the practitioner of medicine.

Sunlight and air therapy owe their impetus particularly to the work of Bernhard at St. Moritz and Rollier at Leysin, Switzerland. In America, this treatment has been advocated especially by the Perrysburg school, including Pryor, LoGrasso and Hyde. Solar therapy as practiced by these workers includes increasing graduated exposures of parts of the body to sunlight and outside air. It is my aim in this article to compare the physical characteristics of the sources of light used in light treatment as well as their physiologic effects, and the indications and results in their clinical usage.

The pioneer workers in the clinical application of artificial light therapy have been those of the Copenhagen (Denmark) Institute, especially Finsen and his followers, Reyn and Ernst. Finsen emphasized the local application of carbon arc light to superficial tuberculosis, especially lupus vulgaris. Reyn and Ernst stressed general body application with artificial sources as carried out by others with sunlight. In England, Sir Henry Gauvain has extensively utilized the carbon arc and the quartz mercury vapor arc lamp as well as other artificial sources, alternating with air and solar exposures. Some of my results obtained by the use of artificial sources of light, more particularly the quartz mercury vapor arc lamp, have led to the presentation of this paper. Because of the broad scope of this field of therapy, only brief reference can be made to the more important facts.

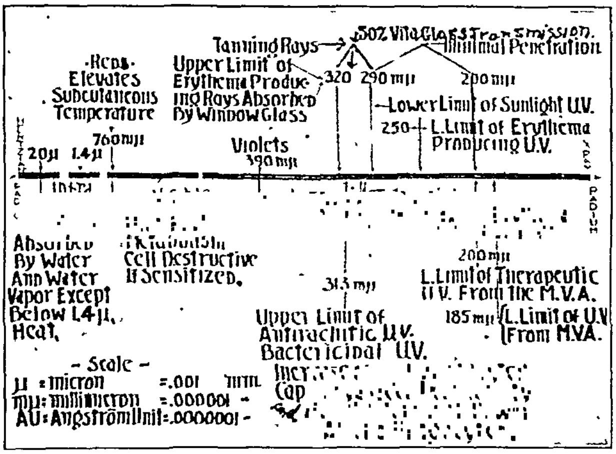
Tanning Rays
50% Vita Glass Transmission
Minimal Penetration
Reds
Elevates Subcutaneous Temperature
Upper Limit of Erythema Producing Rays Absorbed By Window Glass
320
290 mμ
200 mμ
Lower Limit of Sunlight U.V.
250
L. Limit of Erythema Producing U.V.
760 mμ
20μ
1.4μ
Violets
390 mμ
Infra
Absorbed By Water And Water Vapor Except Below 1.4μ. Heat.
Cell Destructive If Sensitized.
313 mμ
200 mμ
L. Limit of Therapeutic U.V. From the M.V.A.
Upper Limit of Antirachitic U.V. Bactericidal U.V.
185 mμ
L. Limit of U.V. From M.V.A.
- Scale -
μ = micron = .001 mm.
mμ = millimicron = .000001 -
AU = Angström Unit = .0000001 -

Fig. 1.—Scheme of wavelengths and divisions of the spectrum and their important physiologic effects.

SOME PHYSICAL CHARACTERISTICS OF LIGHT

Figure 1 represents the divisions of the spectrum of sunlight, showing the visible region limited on one end by infra-red and on the other by ultraviolet rays. The visible spectrum extends from about 760 to about 390 millimicrons. The lower limit of the visible region may vary with different individuals according to the sensitivity of the retina. The ultraviolet rays of sunlight extend from about 390 to 290 millimicrons, and those of clinically used artificial sources from about 390 to below 200 millimicrons. The ultraviolet rays of a source such as the plain carbon arc of 20 amperes that has been so frequently used clinically extend to about 220 millimicrons (the intensity can vary with amperage and with impregnations in the carbons), while those of the quartz mercury vapor arc terminate at 185 millimicrons.

All wavelengths of radiation appear to possess some heat properties and the ability to influence chemical reactions. As a rule, however, heat production is associated chiefly with the infra-red and the red rays. Light is associated chiefly with the rays from red to violet, while the most active rays chemically are the ultraviolet.

The infra-red rays longer than 1.4 microns are penetrative except for water, while the ultraviolet rays are rapidly absorbed. The regions of the spectrum vary greatly in their degree of absorption in different substances. Water and water vapor, for instance, absorb infra-red rays to a very great extent except that region close to the visible from about 760 millimicrons to 1.4 microns. The ultraviolet ray loses the greater part of its intensity in penetrating the atmosphere to reach the lowlands.

Quartz, fluorite glass and clear distilled water do not in any degree absorb ultraviolet rays. Ordinary window glass absorbs all ultraviolet radiations shorter than 320 millimicrons. Vitaglass transmits 65 per cent of the ultraviolet rays at 320, 25 per cent at 290, and about 5 per cent at 270 millimicrons. Twelve per cent of the energy between 700 and 400 millimicrons is lost on account of the reflection of light at the surfaces of the glass. Corning glass (Corning [N. Y.] Glass Works) transmits the solar ultraviolet rays more fully than vitaglass, but its cost at present makes its use prohibitive for any but research purposes.

Various thin and porous cloths treated with thin films of paraffin, and wire mesh screens filled with celluloidinous material transmit the solar ultraviolet and visible radiations very well, especially when these materials are freshly prepared. The ultraviolet rays between 320 and 290 millimicrons are probably the best pigment-producing rays; because of their absorption by window glass, it becomes difficult to tan behind such glass. Sand, snow, ice and water increase the intensity of the ultraviolet by reflection; however, the dense humidity over bodies of water may intercept the reflected ultraviolet rays.

PHOTOBIOLOGIC EFFECTS

Red and infra-red rays produce an immediate hyperemia, which, however, soon disappears after the cessation of the irradiation. Infra-red rays longer than 1.4 microns, it has been shown, are more likely through their rapid absorption to produce cutaneous blisters in animals; those below 1.4 microns penetrate the skin. The visible rays provoke vision, heat and metabolic changes; the red rays are able to elevate subcutaneous temperature as much as 3 degrees C. without causing bodily fever. The infra-red and visible rays produce, through heating, a dilatation of superficial capillaries and an increased blood flow and exudation of lymph; but apart from their heating effect, the rays do not destroy cells except when visible rays are exposed to cells which have been sensitized by such substances as eosin and hematoporphyrin. Their heat effects may aid the action of the ultraviolet rays on body cells.

Ultraviolet rays are rapidly absorbed, in most part, by tissues of a depth of less than 1 mm., and produce marked chemical changes. Grotthus' law states that a chemical reaction cannot occur unless suitable radiations are absorbed. Hemoglobin absorbs ultraviolet rays as well as many of those of longer wavelengths up to approximately 450 millimicrons. Blood serum absorbs the ultraviolet rays chiefly because of its tyrosine and tryptophan content. The ultraviolet rays necessary for the prevention and healing of rickets and the production of erythema are those below the region of about 320 to about 313 millimicrons. This region defines also the approximate upper limit of the bactericidal rays, although some experiments have shown bactericidal action with wavelengths at 365 millimicrons. Ultraviolet rays in sunlight extend to the lower limit of 290 millimicrons, but those in artificial sources from 290 to 250 millimicrons are also productive of erythema, as well as bactericidal and stimulative or destructive of protoplasm.

The brownian movement of colloidal particles ceases when exposure to ultraviolet rays coagulates the protoplasm. Egg and serum globulin are formed from albumin under ultraviolet irradiation. Lens albumin previously sensitized by certain salts, such as calcium, sodium and magnesium, silicates or dextrose, becomes sensitive to ultraviolet radiation. Most bacteria are destroyed by rays of wavelength less than 313 millimicrons, the bactericidal effect usually being more marked as the wavelength decreases. Temperature elevation usually increases this destructive action, and changes in the hydrogen ion concentration appear also to play a rôle. Red blood cells in vitro are hemolyzed by ultraviolet energy, possibly because of increased permeability of the cellular membrane and the destruction of the cell stroma. Protoplasm may be so affected by ultraviolet rays as to become especially sensitive to heat radiations. The visible manifestations of tissue hyperemia due to ultraviolet radiation occur only after the lapse of a certain latent period, two hours or more. There probably takes place an absorption into the blood of products of tissue injury or an enhanced absorption of normal tissue products produced by such injury, with consequent erythema and edema. On repeated exposures, a pigment, melanin, is generally formed in the basal cells of the epidermis; this may be due to the action of certain skin oxidases on a break-down product of tyrosine.

Unicellular organisms are stimulated to certain physiologic changes such as fission, or they may be destroyed by ultraviolet radiation, depending on such factors as the intensity of the irradiation, its penetrative power and the size of the organism. Thus, very short ultraviolet rays may reach the cell nucleus. Small doses of light appear to have a stimulating action, while large doses produce deferred physiologic changes, and still larger doses may destroy unicellular organisms. Amebas, otherwise apathetic, have been made strongly phagocytic for other amebas that were exposed to ultraviolet rays.

Cholesterol, a substance found in comparatively large quantities in the skin, is activated chemically by ultraviolet irradiation. This has been shown to be so by isolating cholesterol and rendering it antirachitic by irradiation with ultraviolet rays. It becomes endowed with antirachitic power in some unknown way through the action of the ultraviolet energy from the light source. It has been recently shown that pure cholesterol cannot be rendered antirachitic by the ultraviolet ray. The substance which is made antirachitic appears to be ergosterol, or an allied substance which is found in ordinary cholesterol as an impurity. Likewise, phytosterol of plants is so activated. Many food products, such as fats, oils, milk, vegetables and lettuce, may also become endowed with antirachitic power through exposure to sources of ultraviolet energy. Ultraviolet irradiation of the pregnant mother renders her milk antirachitic. How this takes place is still a matter of speculation; our knowledge of the exact nature of radiation itself is so limited that its effects on tissues or food products becomes doubly difficult to understand.

As reported recently by Macht and Anderson, certain physiologic ultraviolet ray reactions may be greatly intensified by polarizing the incident light.

FURTHER PHYSIOLOGIC EFFECTS OF LIGHT

The increased calcium and phosphorous content of the blood serum in rickets and tetany under ultraviolet radiation is due in all probability to an increased absorption of calcium from the intestines. Under solar radiations the blood shows increased alkalinity, a fact attributed more to the action of the heat rays.

Radiation occasionally increases red blood cells and hemoglobin, but this chiefly when a preexisting anemia occurs. This has been particularly reported with the use of high amperage carbon arcs. Lymphocytosis in rabbits and possibly in man can be produced by exposure to the shorter ultraviolet rays. Hematoporphyrin injected subcutaneously or applied locally to the mesentery of a frog or mouse sensitizes the vessels to the visible rays, capillary stasis is produced, and thrombi of leukocytes are formed in the vessels at different points along the endothelial wall. Eosin (1:1,000) sensitizes the capillaries to the visible rays, so that stasis is produced by these rays alone. Cell membranes and capillaries develop increased permeability on exposure to ultraviolet rays. Animals kept in darkness from birth can show growth changes differing in no way from those exposed to light, but blood examinations show lowered blood platelets. On exposure of these animals to quartz mercury vapor arc radiations, the number of platelets has rapidly increased to normal. There is also evidence that the coagulation time is decreased.

Basal metabolism is increased only slightly, if at all, by light exposures alone. E. H. and H. H. Mason have reported even a drop in many cases. It can be markedly increased by exposure to moving air. Increased heat output by radiation under a provoked hyperemia demands increased metabolism. Increased mineral metabolism is definitely provoked by light alone to give increased urinary output of nitrogen, phosphorus, sulphur and chlorides. Under exposure to light, respiration is decreased in rate, but increased in depth. Increased body heat production obviously demands accelerated vital reactions. The rate of growth may be increased under the action of light.

Fig. 2.—Outdoor school at Onondaga County Sanatorium, Syracuse, N. Y. (Courtesy of Drs. Brayton and Walsh.)

The increased physiologic action of the skin under exposures to light may be presumed; namely, increased respiratory, excretory and protective powers. It is rare to find acne developing in tanned skin. During an epidemic of chickenpox at Rollier's clinic, cutaneous vesicles were not found on tanned skin, whereas they did appear on unexposed areas beneath plaster casts. Erythema of the skin produced either by heat or chemical radiations is accompanied by transitory increased bacteriophagic and bacteriolytic power of the blood serum and leukocytes for streptococci, pneumococci and staphylococci. From an apparently lifeless, toneless and flabby skin, exposures to light often produce a soft, velvety, colorful tissue. Under exposures to solar radiations and to artificial sources of light, especially with combined exposures to moving air, remarkable muscular tonus has been produced in unused muscles, despite prolonged application of immobilizing casts.

The action of light on the body is in all probability largely an indirect one by way of the cutaneous cells, nerves and blood vessels. Ultraviolet rays for the most part are absorbed by the epidermis; however, deeper penetration of the longer visible rays and of the shorter infra-red ray may allow of some slight direct action, but there is little cause to believe that this can be of much direct therapeutic value. Therefore, penetration should not be stressed as the factor for the interpretation of physiologic effects. Heat rays and heat effects of luminous rays may increase and hasten the effect of ultraviolet energy, but when minimal doses of ultraviolet rays are used, red rays have been shown to act antagonistically.

LIGHT AND MOVING AIR FROM OUTDOORS

Light application necessarily requires consideration of accompanying moving or open air. With lamps, moving air from outdoors should be employed, if possible. Air movement produces increased heat radiation and conduction with better respiration and excretory function of the skin. Moving air acts directly on the vasomotor system, stimulating the superficial capillaries, producing a hyperemia and, in turn, a depletion of the cutaneous circulation. This, acting as a massage, may be responsible for the development of muscle, otherwise immobilized in treatment. With sunlight therapy, the effect of moving open air is greater, but air exposures may well be utilized with artificial light therapy through satisfactory ventilation of the treatment room. Carbon arc lamps may be effectively used outdoors in cloudy warm weather. However, chilling should always be avoided even at the expense of losing the air movement when one is employing artificial sources of light.

SUNLIGHT VERSUS CARBON ARC AND QUARTZ MERCURY VAPOR ARC LAMP

Clear midday sunlight emits intense ultraviolet rays from 300 to 297 millimicrons. Those around 290 millimicrons, its lowest limit, are in intensity about one millionth of those around 310 millimicrons. Its emission of visible and infra-red energy is very high.

Proponents of solar therapy have insisted on the use of radiation having a spectrum with components relatively like those of sunlight. The clinical results with solar exposures have been most favorable in the hands of these workers. Sunlight possesses an advantage in the favorable psychic reaction which makes the patients much more willing to submit to prolonged periods of exposure. Yet there is empiric evidence and some theoretical basis for expecting very favorable therapeutic results with other combinations of light rays. It may logically be reasoned that certain forms of tuberculosis, especially the superficial, are more responsive to *greater intensity of short-wave ultraviolet radiation than* exists in sunlight itself. Empirically, even with other forms, I have noted this response in the use of the mercury vapor quartz light. With lamps, the available light energy is constantly at hand and the dosage is easily controlled.

Quartz Mercury Vapor Arc Light.—From 1 to 5 per cent of the total output of the energy of sunlight is in the ultraviolet rays, the variation dependent on the geographic location, season of year, time of day and kind of weather; but the total output of the solar "near ultraviolet" is high when one considers the total intensity of sunlight. As against the mercury arc, it lacks the short ultraviolet ray below 290 millimicrons. The quartz mercury vapor arc lamp emits a marked preponderance of ultraviolet energy in relation to its total output. It emits relatively much less visible and infra-red energy than does sunlight; most of the infra-red comes from the heated quartz, the electrodes, the supports and the reflecting hood. About 17 per cent of its ultraviolet rays (the total ultraviolet being considered 100 per cent) are of shorter wavelengths than the lower limit of sunlight. The lower limit of its radiation is 185 millimicrons, but in therapy it is rarely below 200 millimicrons. Its upper limit of radiation is about 12 microns in the infra-red. The radiation less than 450 millimicrons represents two thirds of all radiation below 1.4 microns. It consists of a weak continuous spectrum down to 250 millimicrons and a number of spectral bands of high intensity from 450 to 185 millimicrons. Quartz allows the transmission of the rays from 185 to 320 millimicrons which are not transmitted by window glass. Greater intensity of ultraviolet emission occurs after the first five minutes' operation of the lamp.

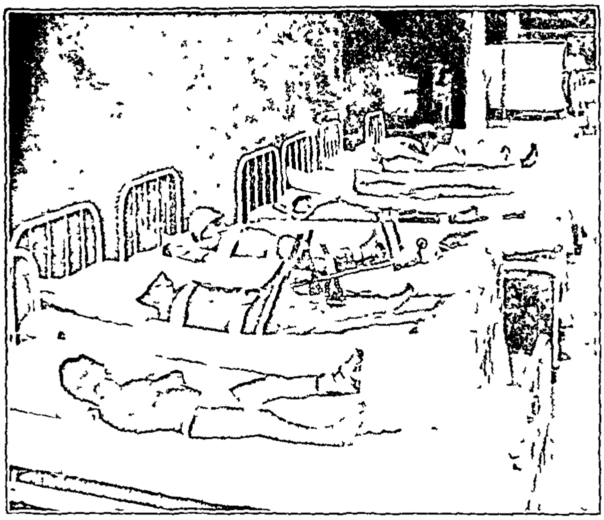

Fig. 3.—Various forms of extrapulmonary tuberculosis treated with lowland sunlight at Onondaga County Sanatorium, Syracuse, N. Y. (Courtesy of Drs. Brayton and Walsh.) Bed 1 (reading from foreground to background), tuberculosis of the upper conjunctiva and ankle. Bed 2, tuberculosis of the elbow and knee. Bed 3, tuberculosis of spine, patient lying on Bradford frame. Bed 4, tuberculosis of the hip (with traction) on Bradford frame. Bed 5, lymphatic tracheobronchial tuberculosis. Bed 6, cervical lymph node tuberculosis. Bed 7, spinal tuberculosis (netting covering discharging sinuses).

Carbon Arc.—The spectral components emitted by the carbon arc are similar to sunlight but vary in intensity. The total radiation emission and the relative intensity of some of its spectral components may be altered by varying the voltage and amperage, by altering the diameter of the carbons, and by impregnating the carbons with suitable metals or salts. The plain carbon arc of low amperage (from 3 to 10 amperes) has proved of clinical value in local applications; those of higher amperage (20 or more amperes), especially those burning impregnated carbons, have been reported effective in general body exposures. The high intensity arc has an output of total energy closest to sunlight. Nickel, iron, titanium, aluminum and tungsten are all employed for impregnating the carbons. Groups of (from 20 to 29 amperes) carbon arc lamps are often used for irradiation of several bed-ridden or ambulant patients; high amperage lamps (from 50 to 125 amperes) are, as a rule, used chiefly for groups of patients. The Schwartz arc recently reported in use at the Cincinnati General Hospital, utilizing 90 amperes, can irradiate twelve or more patients at a time. The cost of installation, the operation charges of large carbon arcs and the care necessary make them useful chiefly for the handling of groups of subjects in institutions.

Enclosed carbon arcs have not proved as efficient as the open arcs. Of the ultraviolet rays, the ordinary carbon arc of Finsen emits chiefly the longer; that below 300 millimicrons is comparatively weak. Carbons with special impregnations or cores now employed in carbon arc lamps emit additional radiation characteristic of the metal or chemical employed within the carbon. Carbons impregnated with iron, tungsten, titanium and nickel emit rich ultraviolet zones down to about 220 millimicrons; in addition, carbon arc sources emit much infra-red and red radiation. With great energy input, carbon arcs can emit a large quantity of radiation. For best efficiency, a definite relationship must exist between the diameter of the carbons and the amperage employed.

The greater the amperage, the more heat is generated. A lower amperage arc can be operated nearer to the patient because its lessened heat makes this tolerable. So, by the law of inverse squares, close exposures increase the quantity of light utilized. As a result, lesser amperage arcs, such as 29 amperes, with specially impregnated carbons, may prove as effective on close irradiation of single patients as high amperage arcs necessarily operated at greater distance and generally employed for groups.

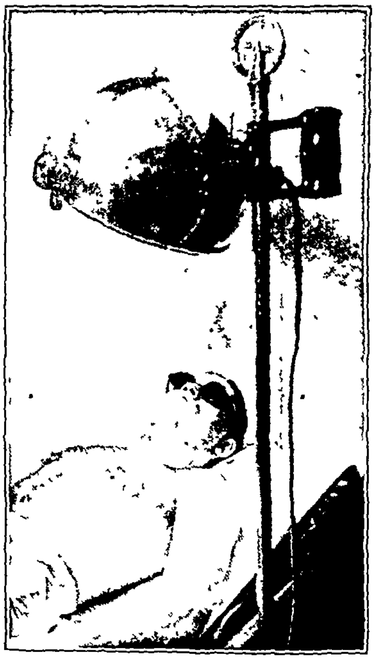

Fig. 4.—Patient exposed to quartz mercury vapor light.

Other artificial sources of light are frequently employed, especially in the European clinics. These include the tungsten arc, iron and magnetite arcs, cadmium arc, oxyacetylene flames and osram lights.

Indications for the use of various sources of light therapy are still inexact, as are also the contraindications; but in many localities in cold and cloudy seasons of the year, when sunlight is too uncertain and solar exposures are too interrupted, artificial sources of light have proved most valuable aids and substitutes.

PIGMENT

Mercury vapor arcs produce a yellowish-brown pigmentation. However, at times I have observed mercury vapor lights produce a pigment barely distinguishable from that produced by sunlight, but it does not last as long. Pigment produced by intense sources of heat, such as oxyacetylene blasts or osram lights, is said to simulate sunlight tan closely, and to be just as permanent (Kisch). The pigment from sunlight and the large Finsen arc is blackish-brown or red-brown; from long flame arcs and tungsten arcs red-brown.

That increased pigment production necessarily means an increased tendency to healing is not generally accepted. Similarly, however, the maintained production of an erythema is not a necessary accompaniment of improvement. Pigment can protect against an overdose of ultraviolet energy; it absorbs light, changing it to heat, and may allow for better heat radiation; it may possibly sensitize the skin to visible light as chlorophyl does the plant. Patients who failed to develop pigment have responded favorably to treatment just as patients who developed a strong pigment often failed to become healed. P. Keller showed that the development of ultraviolet pigmentation was independent of that of tolerance, and that ultraviolet tolerance is possible without pigmentation. Leonard Hill showed that melanin is not a sensitizer, but that a suspension of it can protect frog mesentery from ultraviolet rays.

DOSAGE

Curative results in light therapy may be brought about without the production of marked cutaneous burn, as only the first degree of redness need be produced. The skin offers a vast field of living cells, which are exposed to stimulation or injury in many ways, and such an effect may provoke immunizing or harmful effects. Ultraviolet rays from about 313 to 250 millimicrons produce skin erythema; about 69 per cent of light erythema is caused by rays from 302 to 297 millimicrons. Four per cent of this maximum is at 313 millimicrons; 16 per cent is at 253 millimicrons (Hausser and Vahle). Erythema is not caused by even one hour's exposure of the skin to ultraviolet rays longer than 330 millimicrons (Hill). Rays shorter than 250 millimicrons produce a very faint erythema. Dosage in therapy is therefore possibly largely dependent on the intensity of wavelengths from 313 to 250 millimicrons present. Erythema depends on the intensity and duration of exposure to the source of ultraviolet rays, the distance from the source, the temperature, and the individual sensitiveness of the skin

The dosage of light to be used therapeutically cannot be fixed. The sources of light and the individuals irradiated vary too greatly to allow of any generalization as to dosage. Even different areas of the body vary greatly in their sensitiveness to radiation. Some workers prefer an erythema, and others strongly stress the desirability of the production of a pigment. The Copenhagen school, employing particularly the carbon arc light, prefers erythema.

Eidenow and Hill aim at a mild erythema production with each dose applied. Thus, skin sensitiveness is maintained. This dose of light has regularly produced in their hands an increased bactericidal power of the blood, whereas excessive dosage has produced a marked decrease, and in animal experimentation has appeared to hasten death. They utilize, therefore, a great intensity of ultraviolet energy, and avoid overheating the body by using short and intense exposures. The degree of skin erythema regulates their dosage. Exfoliating skin is very opaque to ultraviolet rays, while newly exposed skin is very sensitive. The skin is rested during desquamation and several days elapse before further exposure to this area. When the skin becomes insensitive, say to large doses of mercury vapor quartz light, an exposure to long flame carbon arcs is employed. When pigment is established by this source, so that a long exposure is now required to produce redness, this exposure can be reduced by using nickel-cored or tungsten-cored carbons. Their method requires only fifteen minutes' maximum radiation in contrast to the Finsen method, with which a two hour exposure is the rule. The varying degrees of erythema are determined by a skin colorimeter. Rollier and his followers, on the other hand, aim for pigment production.

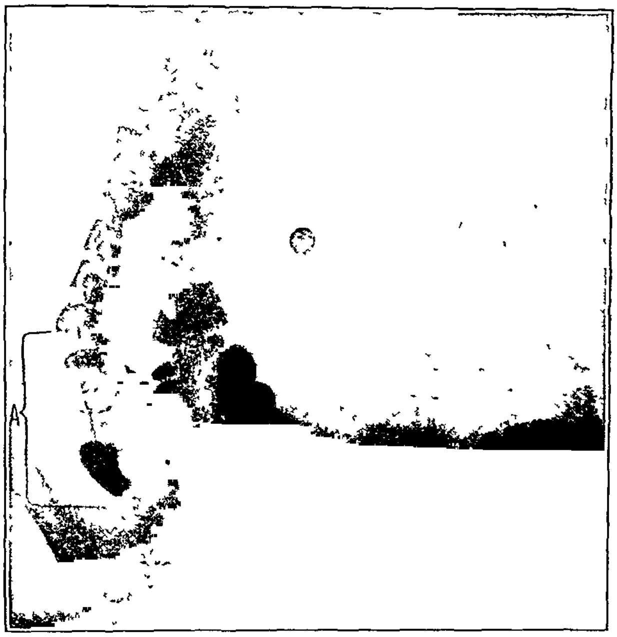

Fig 5 —Filling defect (*A*) in cecum of intestinal tuberculosis before light treatment

Overdosage of light may produce injury. Hill and Eidenow found that excessive exposure caused a drop in the bactericidal power of the blood with malaise and fatigue. During menstruation, the blood bactericidal power was lowered and radiation appeared to make this even worse. In experiments in which rabbits were given a septicemia, the bactericidal power of the blood fell to a very low degree and was not improved by radiation, thus supporting the view generally held that in the treatment of acute infections by light one should be very cautious. Very aged patients have been considered to have their resistance to infection lowered by the injudicious application of light. In tuberculosis, overdosage has produced focal reactions that have done harm; light may set up a focal reaction similar to that of tuberculin. Hobert[1] also found that in anemic rats careful irradiation leads to a rapid regeneration of erythrocytes and hemoglobin; but if the irradiation is too vigorous, blood cells are destroyed.

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[1] Hobert, H Klin Wchnschr 2: 1213 (June 25) 1923.

The schedule for increasing the period of exposures with various sources of light must vary. The physician is to be guided chiefly by the signs and symptoms evinced by the patients in their response to treatment, in addition to the skin reactions. In tuberculosis, the selection of a form of light therapy may depend on the state of activity or on the form of the disease to be treated; thus, with a febrile advanced case, one might prefer to avoid the heat rays. One may also have to depend on the source of light available or be influenced by the season of the year. Furthermore, a failure in response to one form of light therapy may be an indication for the trial of another form, or possibly many forms of light therapy may have to be combined in various ways. I have found that some patients with sallow complexion showed little skin erythema on the first exposure to the mercury vapor quartz lamp, but if previously treated with from three to four doses of the carbon arc lamp they later reacted with erythema. There may exist contraindications to light therapy which are not yet clearly understood but which later with more experience may become evident.

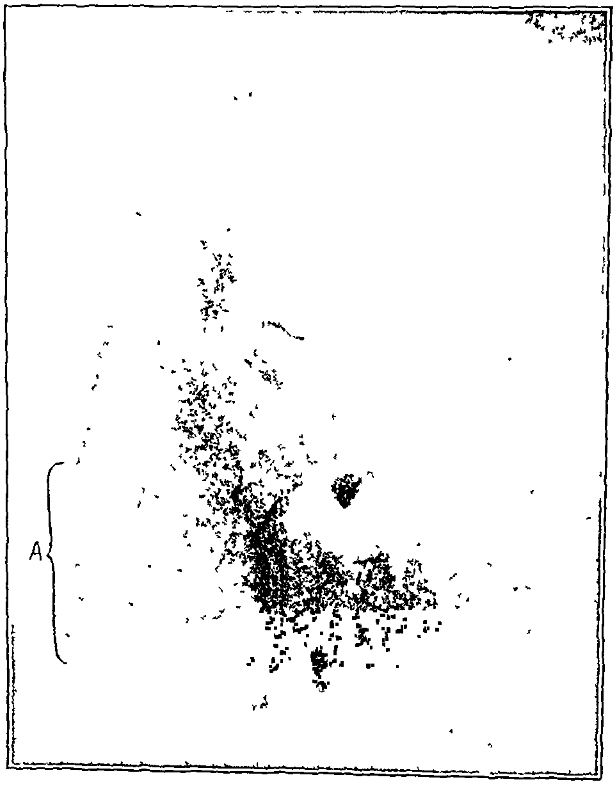

Fig 6.—Disappearance of filling defect (*A*) after eight months of quartz mercury arc light exposures

It is highly probable that, in most forms of progressive acute tuberculosis, light therapy is not indicated. It is well known that roentgen-ray therapy is not indicated in such cases. In my experience, intestinal tuberculosis is an exception. In this complication at times, even when progressively active, mercury vapor quartz light has proved of great value.

With any form of tuberculosis, light is used merely as an adjuvant and should be combined with every other possible aid. The mainstays of treatment still exist in rest, good food and hygienic outdoor life.

With bone and joint tuberculosis, orthopedic treatment with immobilization and traction is absolutely essential while light exposure is being employed. Surgical intervention is occasionally needed, especially for the aspiration of abscesses or for hastening the expulsion of sequestrums. Joint resection and ankylosis are necessary much less often with heliotherapy, but there may even yet be certain social, economic and other factors that occasionally force this intervention. The plaster cast is less often needed. As pointed out earlier, one always combines general and local light exposures, regardless of the location of the lesion.

TECHNIC OF EXPOSURES

With sunlight the patients are graduated to increasing periods of exposures over increasingly large areas of the body, according to Rollier's technic. Sunlight of the lowlands and highlands is equally valuable, but the heat of the day should be avoided (fig. 2). Diffuse daylight and air exposures on cloudy days are used to great advantage. Chilling winds should be avoided. Overexposures may incite focal reactions to activity.

With plain carbon arcs, as used at the Finsen Institute, one begins with a fifteen minute irradiation, front and back, and then increases daily fifteen minutes front and back until exposures of two hours daily are reached. The lamps are placed at a distance from the patient, so that the heat emitted from this source of light is tolerable. Frequently, sweating occurs during the exposures. The treatment is then terminated with a sponge bath. General body exposures are always employed, and, if possible, an additional local exposure is made. In these cases as much skin surface as possible is irradiated. With impregnated carbons, depending on the cores and the amperage employed, one can gage the dosage by watching for skin erythema and the general constitutional reactions. With these one must feel one's way cautiously by first using very small exposures. With the 90 ampere Schwartz carbon arc, beginning exposures of one-half minute are made, and perhaps twenty minutes secures the maximum exposure. Although with the Finsen arcs of thick carbons exposures of two hours are made, fifteen minutes is the longest time with the long flame arcs used by Hill and Eidenow. The English workers have also been aiming to determine the exact amount of skin that must be exposed to produce the greatest rise of the bactericidal power of the blood, this being figured out in terms of square centimeters per kilogram of body weight. As a result, they have exposed only limited skin areas such as the thorax or back, and a new area every other day, utilizing four parts and returning to the area of the first exposure on the tenth day. The skin is thus maintained in a light-sensitive state, and no exposure is given during desquamation. The question of the advisability of such a manner of irradiation is not yet solved.

With a new mercury vapor quartz light, alternating current of 5 amperes, 110 volts, I have made exposures purely on an empiric basis, beginning with three minutes at a distance of 36 inches from the body, employing two exposures in front and two behind, and centering over the middle of the upper and lower halves of the body in order to expose uniformly as much of the skin surface as possible; a fifth exposure is then made directly over the area of disease to include any possible reflex depth action; a daily increase of one minute is added to the exposure until a twenty-minute period is reached front and back at this distance on all five parts. The room temperature is maintained at about 70 F. Ventilation is employed, so that the patient senses the movement of air. Heat lights (carbon incandescent bulbs) are added, if the patient is not able to endure the ventilation without discomfort. With older burners, dosage is increased more rapidly.

The quartz burner is then slowly brought nearer to the body by lowering it about 1 inch every other day until it is 18 inches from the skin. After this, the second intensity is frequently employed, especially if the burner is one that has had considerable usage. In addition to the general body exposures with the air-cooled mercury vapor light, a contact exposure is often made to a superficial focus of tuberculosis by means of an applicator attached to the water-cooled mercury vapor light.

METHODS OF DOSAGE DETERMINATION

The light energy emitted by certain sources varies markedly in intensity from time to time. This is more particularly so with the mercury arc. There are certain tests that can determine this variation, and are aids for dosage:

1. The Bering-Meyers iodine method is based on the separation of free iodine from a solution of acidified potassium iodide by means of light. The iodine was determined colorimetrically by Hackradt with a colorimeter.
2. P. Keller modified Bering-Meyers' iodine solution by adding starch and varying quantities of sodium thiosulphate to the potassium iodide solution, and obtained a blue color on irradiation. This he biologically standardizes against skin redness.
3. The Eder-Hecht photometer was introduced by Freund, and is based on the sensitiveness of silver-photographic paper through a graded gelatin wedge.
4. The actinometer of Fürstinau, when exposed to light, responds with changes in the electrical conductivity of selenium.
5. Lithopone paste, advised by J. Clark, is a sensitive salt which on exposure to ultraviolet radiation is compared with a standard.
6. The bleaching of a standard solution of acetone-methylene blue, corresponding to the action of light on infusoria, is worked out by Hill, Eidenow and Webster. Hill[2] reported that the standard color tubes made up with methylene blue do not keep well, especially in warm weather. He recommends similar tubes made up with copper nitrate and potassium chromate.
7. Oxidation of oxalic acid (sensitized with uranylsulphate) by ultraviolet radiation is advised by Robinson and Anderson.[3]

Most of these methods react with the visible and long ultraviolet rays and are not specific in their reactions to the erythema-producing rays, which are those shorter than about 313 millimicrons.

CLINICAL RESULTS

Sunlight.—The most favorable response to solar exposures have been shown by the so-called pretuberculosis of children, and by tuberculosis of the lymph nodes (including hilum), the pleurae, bones and joints, peritoneum and intestines (fig. 3).

Less favorable results are usually obtained in pulmonary, genito-urinary, laryngeal, ocular, aural and cutaneous tuberculosis. With joint tuberculosis the fibrous form of ankylosis has been overcome and joint function has been often restored. With lymph node disease, massive tuberculous glands have been extruded from their capsules during healing by light. Fistulas are more resistant to treatment.

Carbon Arc.—With plain or cored carbon arcs of high amperage (from 55 to 75 amperes) or with arcs of lower amperage (from 20 to 29 amperes), the best results have been reported with cutaneous, bone and joint, lymph node, laryngeal, peritoneal and ocular (corneal and phlyctenular) tuberculosis; less favorable have been the reports on progressive pulmonary, genito-urinary and intestinal tuberculosis.

Quartz Mercury Vapor Light.—In my own experience of ten years with the use of the quartz mercury vapor light as an adjuvant (fig. 4), the most favorable response has been encountered in intestinal tuberculosis. The diagnosis is established by a history of all varied digestive complaints, such as alternating constipation and diarrhea, nausea, vomiting, abdominal pain, soft or watery stools, or merely by persistent loss of weight or slight elevation of temperature otherwise unexplained—by any or all of these symptoms combined with roentgen-ray demonstration of spasm or filling defect in the cecum or ascending colon in a patient known to have pulmonary tuberculosis. Figures 5 and 6 show roentgenographically the intestine with a filling defect before treatment, and an almost complete disappearance of this defect after eight months of quartz mercury vapor exposures; this improvement was accompanied by a cessation of the digestive complaints. After the study of a large series of such cases, of which the foregoing is typical, I am convinced that this recovery is directly related to the light therapy.

Other forms of tuberculosis which in my experience are frequently responsive to mercury arc light exposures are the "hilum glandular" or so-called hidden tuberculosis of children and adults; the superficial forms of tuberculosis, such as the cutaneous, oral or pharyngeal, laryngeal (except the acute and the edematous forms), corneal and phlyctenular ocular tuberculosis, and the lymph node and peritoneal tuberculosis. Less favorable in their response but occasionally improved are genito-urinary, and bone and joint tuberculosis. Postoperative sinuses after nephrectomy were especially responsive.

Reliance on artificial sources of light as an important aid in pulmonary tuberculosis is not to be encouraged.

CONCLUSION

Light of any form by itself is not curative but comprises only one of the important adjuvants in the treatment of tuberculosis. To believe that sunlight or artificial sources of light will cure all forms of "surgical" tuberculosis; to be unduly optimistic about this treatment and to consider it a specific form of treatment; to use it without sound medical guidance and adequate equipment, and, finally, to employ it to the exclusion of rest and the hygienic-dietetic regimen, eliminating orthopedic measures or the occasional necessary surgical intervention in bone and joint tuberculosis, is bound eventually to dishearten many sufferers and to bring discredit on an otherwise eminently desirable method of treatment.

108 Main Street.

Health and Perspiration.—Exercise carried to the perspiring stage fulfils the chief physiologic function of bathing, which is to remove the waste material thrown off from the body. A man who perspires freely, though begrimed with surface dirt and redolent with sweaty odors, is much cleaner from the standpoint of health than the young lady who never perspires from her own activity, though her skin is as white and fair as perfumed soap may make it.—Sargent: The Biological Significance of Physical Education, *American Physical Education Review*, December, 1918, p. 525.

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[2] Hill, Leonard: Lancet 2: 299 (Aug. 9) 1924.

[3] The detailed technic of these tests is given by Mayer, E.: Clinical Application of Sunlight and Artificial Radiation, Baltimore, Williams & Wilkins Company, 1926.

BENIGN TUMORS OF THE STOMACH FROM THE ROENTGENOLOGIC POINT OF VIEW *

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ROCHESTER, MINN.

Three years ago I[1] reported roentgenologic observations in twenty-three cases of benign tumor of the stomach in which operation was performed at the Mayo Clinic. Since then eighteen additional cases have been observed here. It is my purpose to recapitulate the amplified series and review the subject. A survey of the literature has disclosed fifty-two cases recorded by others, and the aggregate thus affords a reasonably substantial basis for certain general deductions.

As compared with malignant new growths, benign tumors of the stomach are rare. Various compilations, derived from necropsy and surgical statistics, have been made to determine their incidence. Eusterman and Senty[2] have computed that only 1.3 per cent of all gastric tumors seen at operation are benign. However, this percentage does not represent their practical importance, for the diagnosis in a given instance may have an individual significance which cannot be measured by statistics.

Histologically, the benign tumors are of great variety. They include the myomas, adenomas, fibromas, papillomas, hemangiomas, lymphangiomas, myxomas, lipomas, chondromas, osteomas, mixed types, dermoid and miscellaneous cysts, and mucous polyps. Of these types, the mucous polyps, adenomas, papillomas, myomas, fibromas and hemangiomas are the most common; the others are extremely rare.

With few exceptions, benign tumors have certain traits in common. In general, their site of preference is the pyloric or middle third of the stomach. As a rule, they project into the gastric lumen, and are sometimes sessile but more often pedunculated. A small minority project outside the stomach, and these also are usually pedicled. Exceptionally they are large, but most of them are small, with the greatest dimension a few centimeters. In form they tend to be regularly ovoid with a fairly smooth contour, but are sometimes irregularly polygonal or multilobular. The intraventricular tumors are subject to ulceration, but this is usually superficial. Not infrequently they are concurrent with gastric ulcers or cancers; sometimes adenomas and mucous polyps are associated with intestinal polyps. Although at least primarily benign, almost all these growths are potentially malignant. Papillomas often become cancerous, adenomas are likely to take on malignant characteristics, myomas and fibromas sometimes have areas of sarcomatous degeneration, and even the simple mucous polyps are strongly suspected of affiliation with cancer. In case reports single growths predominate, but most varieties may be multiple, and mucous polyps, papillomas and adenomas are often numerously multiple.

Gastric polyposis is an indefinite term which has been applied to benign polypoid intraventricular growths of various kinds. In 1888 Menetrier[3] described two varieties, polyadenomes polypeux and polyadenomes en nappe, the former consisting of more or less detached polyps with independent pedicles, the latter of closely set tumors arising from a common thickened base and forming a plaque. While his designation is suggestive of true adenomas, his histologic description is that of mucous polyps or hypertrophied rugae, both of which consist essentially of a mucosal overgrowth, the glands especially being increased. Menetrier included in his reports cases of single mucous polyps, plural but not numerous polyps, and multiple diffuse polyps. Other writers have followed him in this respect, and some of them have apparently included true adenomas and papillomas, these terms occasionally being used synonymously with polyposis. It seems obvious that the true adenomas and papillomas should be excluded. Further, notwithstanding the precedent set by Menetrier, it might be well to restrict the term polyposis to numerously multiple mucous polyps and hypertrophic rugae.

SYMPTOMS

The symptoms of benign gastric tumors depend on their size, number, situation, presence or absence of ulceration, and whether they exist concurrently with cancer or ulcer. Exogastric tumors, even when large, seldom produce symptoms referable to the stomach. Endogastric tumors, if single or few in number, small, not eroded, not near enough to the pylorus to block it, and not accompanied by other gastric lesions, may not produce symptoms; many such cases have been found at necropsy or in the course of operation for other disease. In the event of a coexisting ulcer or cancer, the symptoms of the latter diseases are usually dominant. Large tumors, tumors which are extensively or deeply eroded, and those which obstruct the pylorus, give rise variously to distress, related or unrelated to food, and to weakness, vomiting, hematemesis and melena. Often free hydrochloric acid is not found in the gastric contents, and there may be complete anacidity. Mucus is likely to be increased. The tumor is seldom palpable. Continuous loss of blood frequently results in profound secondary anemia, and this may be the sole definite sign. On the whole, the symptoms and signs, even when pronounced, are suggestive of cancer or ulcer, and one or the other is usually the clinical diagnosis. In two or three of the cases reported tissue was recovered from the gastric contents and a microscopic examination made the diagnosis possible. Examination with the gastroscope was of some assistance in one case. However, the simplest and most efficient aid in the diagnosis is the roentgen ray.

ROENTGENOLOGIC DATA

The fifty-two cases in which the roentgenologic data are reported in the literature comprise five of exogastric tumor, and forty-seven of endogastric. The exogastric growths were all single myomas or fibromas. Four of these produced more or less deformity of the gastric shadow, but the roentgenologic diagnosis was ulcer or cancer. In the fifth case, a large myoma attached by a pedicle to the anterior gastric wall did not cause visible deformity. Cases of single endogastric tumor numbered twenty-seven, and included fibromas, adenomas, myomas, papillomas, mucous polyps and mixed tumors. Among the other cases of endogastric tumor were three of multiple mucous polyps, two of multiple papillomas, and one of hypertrophied rugae prolapsing into the pylorus. Nine cases were classic examples of diffuse gastric polyposis. A roentgenologic diagnosis of benign tumor was made in a few cases, chiefly those seen in

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* From the Section on [illegible] Clinic.

* Read before the Sect[illegible] Seventy-Eighth Annual Session of the America[illegible], Washington, D. C., May 18, 1927.

[1] Moore, A. B.: A Roentgenologic Study of Benign Tumors of the Stomach, Am. J. Roentgenol. **11**: 61-66 (Jan.) 1924.

[2] Eusterman, G. B., and Senty, E. G.: Benign Tumors of the Stomach, Surg. Gynec. Obst. **34**: 5-15 (Jan.) 1922.

[3] Menetrier, P.: Des polyadénomes gastriques et de leurs rapports avec le cancer de l'estomac, Arch. de physiol. norm. et path. **1**: 32-55, 236-262, 1888.

recent years; in some only a concurrent cancer or ulcer was discovered, and in many the roentgenologic appearance was described without an attempt at diagnosis. Most of the descriptions and illustrations are now recognized as suggestive of benign tumor. Although the number of correct diagnoses seems small, it must be remembered that the cases were scattered, few observers having seen more than one or two.

The cases observed at the Mayo Clinic now number forty-one. There were two cases of single extraventricular tumor, one a dermoid cyst, the other a fibroma. Among the thirty-nine cases of intraventricular tumor the growths were single in twenty-seven; five were hemangiomas, five fibromyomas, five adenomas, two fibromas, two adenomyomas, two myxofibromas, three mucous polyps, and two papillomas. The twelve cases of multiple tumors comprised two of adenoma, three of mucous polyps, one of adenomyxoma, one of myoma, one of localized hypertrophied rugae, and four of diffuse polyposis.

In the earlier cases of this series the examiners were not familiar with any of the roentgenologic manifestations indicative of benign tumors. However, since our review in 1924 of the roentgenologic characteristics of such tumors and the application of these signs, the diagnosis has become almost consistently accurate; only one case has been found at operation which was not previously discovered with the roentgen ray.

On reviewing these two groups which consist of ninety-two cases one notes, first, that exogastric benign tumors usually, either by pressure or by traction, produce deformity of the gastric shadow which is likely to be misinterpreted as indicating cancer or ulcer, although exceptionally the fact that the lesion is extraventricular can be determined; secondly, that endogastric benign tumors have rather striking roentgenologic features which should make their diagnosis possible in a high percentage of cases.

ROENTGENOLOGIC SIGNS OF ENDOGASTRIC BENIGN TUMORS

Most conspicuous among the signs of endogastric benign tumors is the filling defect, which is generally central rather than marginal, although it may be near the curvature, is smoothly and sharply contoured, as a rule, and is commonly rounded or oval. The regularity of outline is due to the smooth contour of the tumor and to the fact that ulceration, if present, is usually shallow. Occasionally a large tumor will show minor irregularities, and a compound lobulated tumor will produce a lobulated shadow, but the individual lobules are evenly rounded. It should be emphasized here that in most cases approximation of the gastric walls by manual pressure during the screen examination is necessary to bring out fully the contours of these tumors. Without this manipulation, small growths are likely to elude the examiner.

The outline of the gastric shadow is commonly preserved in the region of the internal defect, although it may be faint or made up of short broken lines. This is especially true of pedunculated growths, and the majority of benign tumors are pedunculated. Mural and broadly sessile tumors, or numerous thickly set polyps may, of course, exclude the barium from their base and produce a marginal defect. Sometimes it is possible to trace the pedicle to its point of attachment; however, this is unusual. If the pedicle is long, the tumor can be shifted within the stomach by palpation.

An almost unvarying characteristic of benign tumors, regardless of size or number, is that they do not lessen the size of the stomach, as indicated by its outline. They intrude into the lumen and may thus diminish capacity, but they do not cause contraction or spasm and thus there is no general shrinking effect. Absence of the spasm common to ulcer and cancer is one of the earmarks of benign tumors.

Since the majority of the tumors arise from the mucosa, the gastric musculature remains unaffected, the wall continues to be pliant, and peristalsis is likely to be uninterrupted.

Because the tumor is usually small as compared with cancer, a mass can seldom be palpated during examination.

The rugae surrounding the tumors, except in cases of polyposis, commonly have a normal appearance; they are not obliterated as in cancer, or thrown into convergent folds as in ulcer.

Multiplicity of the growths, as evidenced by multiple internal filling defects, is strongly indicative of benignity. In classic examples of diffuse polyposis the gastric shadow has the appearance of a coarse sponge, because of the numerous oval or rounded translucences. The stomach is of normal size, the line of the curvatures is usually traceable, although it may be serrated, and peristalsis may run its ordinary course. As a whole, the picture is striking and distinctive.

Although benign tumors most often have pronounced characteristics, their diagnosis is not always easy. The most difficult cases, perhaps, are those in which the growths are confined to the antrum and obstruct the pylorus. In this event there may not be any definite roentgenologic signs save a residue from the six-hour meal and a vague filling defect in the antrum, so that the examiner can only affirm the presence of a lesion without specifying its nature. If, however, a polypoid tumor prolapses into the duodenal bulb it will produce a central translucence in the bulbar shadow which is fairly diagnostic. When typical cancer coexists with benign tumor the examiner is likely to discover only the former, naturally attributing all the anomalies of the gastric shadow to the malignant lesion.

SUMMARY

A benign gastric tumor usually produces a filling defect which is centrally situated and clearly circumscribed; it does not distort the rugae, interfere with peristalsis, or obstruct the pylorus unless seated in the antrum; it does not cause contraction or spasm of the stomach. It must be conceded that while these signs are reasonably diagnostic, they are not absolutely pathognomonic of benignancy, for pedunculated growths may be primarily or secondarily malignant. In view of the increase and diffusion of roentgenologic experience and the rather emphatic traits of benign tumors, it is probable that their diagnosis will be made more often and more confidently in the future than it has been in the past.

ABSTRACT OF DISCUSSION

Dr. George W. Holmes, Boston: Since 1912, we have had seven proved cases of benign tumor of the stomach occurring in about 30,000 gastro-intestinal examinations. In six of these cases roentgen-ray examination was made which resulted in a correct diagnosis in three. In all cases a definite lesion of the stomach was demonstrated. Peristalsis was present over the site of the lesion in all but two. We believe that this sign when present is of the greatest value. In the one case in which it was found and interpreted incorrectly, the examination was made in 1913; this was the first case of benign gastric tumor in our clinic in which a complete roentgen-ray study was carried out. Most of our patients showed an anemia, in two of such severe grade that a primary disease of the blood was thought to be present until the roentgen-ray examination was made. The point of greatest importance in this disease, it seems to me, is its differentiation from inoperable malignant tumor. Benign tumors are usually curable by surgical means.

Dr. H. K. Pancoast, Philadelphia: Two conditions at the pyloric region of the stomach may produce definite obstructive symptoms and also slight bleeding and a progressive anemia. One is papilloma, which tends to become more or less pedunculated, and the other is a hypertrophied mucosa. Both may produce a ball valve type of obstruction and both may bleed. We have diagnosed more than twenty cases of the kind, and in many of them there was found evidence of prolapse through the pylorus into the duodenum, with filling defects in both localities. Fifteen patients were operated on; six had pernicious anemia. Of these six, five had papillomas and one, hypertrophied mucosa. Two of the papillomas were found to be malignant, which indicates that all such patients should be operated on for this reason, and also to relieve symptoms and possible bleeding. An operation will not cure pernicious anemia, but it will stop bleeding and avoid subsequent malignant degeneration. The filling defects may not be shown in the erect posture but will be brought out in the prone position. Herniation may occur only in the right oblique position.

Dr. F. B. Stephenson, Denver: In the past year I had as a patient a physician of very heavy build who had lost only 8 or 9 pounds in a year and complained chiefly of being tired. He fell into the hands of a good internist who found him anemic, but could not determine a special cause for the anemia. He referred the patient to me. At first I found nothing at all definite by fluoroscopy but on manipulating and making the least little pressure, I was able to produce what appeared to be a filling defect in the central portion of the stomach. Placing him on the horizontal table, I found a position in which the same defect showed, making enough pressure in a certain way to bring it out, and we caught it on a plate. I diagnosed tumor of the stomach, probably benign and probably on the posterior wall. His two sons were physicians, and as one was well known in Chicago, he went there and was examined thoroughly. His condition was pronounced pernicious anemia and little importance was placed on the stomach condition we had found, although I think the same thing was then observed. For three months he was given a liver extract and liver diet without any improvement, though he lost little weight. Three or four months later we repeated the examination and found a marked deformity. He was operated on for the tumor, which was about the size of a duck's egg, pedunculated, and attached to the posterior wall of the stomach. It was removed and the pedicle was cauterized. Since that time—now about three months—the patient has maintained his weight and has been able to get back to his work; the blood picture has improved materially. I think he has now about 70 per cent hemoglobin. The interior of the tumor was pronounced cancerous and the other portion not, so I think that if the patient had been operated on at an earlier stage he would have had a better chance of attaining a normal condition of the blood.

Dr. Alexander B. Moore, Rochester, Minn.: There is little to add, except to emphasize further the points that have been made in this discussion. These cases are interesting to me because, first, benign tumors usually have a characteristic roentgenologic appearance; secondly, they are found usually in persons who are manifestly ill, and thirdly, their surgical treatment is very satisfactory. While none of our patients have had a typical pernicious anemia, the secondary anemia has been so marked as to simulate a pernicious type. Few of those patients had noticed blood in the stools, and profuse hemorrhages were extremely rare. It should be stressed that a benign tumor is usually operable in a location where it would be impossible to resect a malignant one.

PURPURA HEMORRHAGICA (ESSENTIAL THROMBOCYTOPENIA)

TREATMENT BY THE MERCURY VAPOR LAMP *

EDWARD TOLSTOI, M.D.
NEW YORK

In a preliminary communication Sooy and Moise[1] reported a new and more rational method of treatment of idiopathic purpura hemorrhagica (essential thrombocytopenia). The rationale of their measure was based on the knowledge that increments in platelets were observed in rats exposed to mercury quartz lamp irradiations and to sunlight.[2] Hence, transmuting this fact into the suggestion that irradiation by the mercury vapor lamp might be beneficial in essential thrombocytopenia, since one of the characteristics of that malady is a lowered platelet content of the blood, they subjected ten patients to this type of treatment and have reported satisfactory results. They cite one case in detail, in which a marked improvement was effected after ten exposures varying in length from four to twelve minutes. The result was judged by clinical as well as laboratory observations; that is, the platelet count rose, the bleeding time decreased, and the epistaxis, as well as the hemorrhages into the skin, stopped.

Stimulated by this report, and having a case of chronic essential thrombocytopenia in one of the wards at the time the report was published, I thought it desirable to utilize this simple therapeutic measure. My enthusiasm was somewhat dampened when the fact was called to my attention that prolonged and frequent exposure to ultraviolet rays might do more harm than good.[3] However, through the courtesy of the pediatric service, I was given the opportunity to test this method. Two other cases of chronic essential thrombocytopenia in adults were treated by this method, and the results of the three cases studied are given here.

METHODS

A standard mercury quartz lamp was used, and the exact procedure is described in the report of cases. All the patients showed the skin effects of the treatment, but none complained of any disagreeable features.

The platelets were counted by a method in use at the hospital.[4] The diluting fluid consists of a freshly prepared, approximately 3 per cent sodium citrate solution (1 Gm. in 30 cc. of distilled water). The erythrocytometer is used for the dilutions, and the counts are made in an ordinary blood counting chamber. The determinations were checked in every case by another observer, and at times by two different persons. In addition, smears were made, and the platelets were estimated in this way against the red cells after being stained with Wright's stain. The bleeding time was determined by the method of Duke.

REPORT OF CASES

Case 1.—A boy, aged 11, was admitted, July 9, 1926, for the second time, the first admission having been in 1920, because of nosebleed following trauma and of "black and blue"

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* From the Medical Department of Mount Sinai Hospital.

[1] Sooy, J. W., and Moise, T. S.: Treatment of Idiopathic Purpura Hemorrhagica, J. A. M. A. **87**: *94* (July) 1926.

[2] Cramer, W., and Drew, A. H.: Effect of Light on the Organism, Brit. J. Exper. Path. **4**: *271* (Oct.) 1923. Laurens, H., and Sooy, J. W.: The Effect of Light and Darkness on Blood Cell Number of the Growing Albino Rat, Proc. Soc. Exper. Biol. & Med. **22**: 114, 1924.

[3] Levy, M.: Der Einfluss ultravioletter Strahlen auf die inneren Organen der Maus, Strahlentherapie **9**: 618, 1919. Hausman: Grundzuge der Lichtbiologie und Lichtpathologie, quoted by Cramer and Drew.

[4] Ottenberg, Reuben; and Rosenthal, Nathan: A New and Simple Method for Counting Blood Platelets, J. A. M. A. **69**: *999* (Sept. *22*) 1917.

spots all over his body. The most interesting note on the first record was of a tonsillectomy performed a year before without any postoperative hemorrhage. The physical examination at that time showed no abnormalities, except for numerous subcutaneous hemorrhages over both the upper and lower extremities The platelet count was 50,000, and the bleeding time four and one-half minutes. He remained in the hospital for seven weeks and was discharged improved. From the time of his discharge until April, 1926, he was perfectly well and free from all symptoms. At that time he again fell and noticed many black and blue spots over his body, as well as bleeding from the nose. He visited the outpatient department, where he was observed for a short period and advised to enter the hospital The physical examination on admission failed to reveal much that was abnormal Purpuric areas and ecchymoses were the outstanding conditions. The red cells numbered 4,960,000; the white blood cells 10,600, with a normal differential count; the platelets, 80,000, the bleeding time was seven minutes with a positive tourniquet test in three minutes Before this patient was treated, the platelet count was followed by Dr Buchman for about two weeks The lowest count was 80,000; the highest, 135,000 Most of the counts were 100,000 After this control period, the boy was exposed to the ultraviolet rays; the results are given in table 1.

Table 1.—*Results of Exposures to Ultraviolet Rays in Case 1*

Date	Time of Exposure in Minutes	Platelets	Comment
7/27/26	3	80,000	Front and back exposed at a distance of 18 inches
7/28/26	4	100,000	
7/29/26	5	120,000	
7/30/26	6	100,000	Hemoglobin, 62%; red blood cells, 6,500,000
7/31/26	7	800,000	Hemoglobin, 63%; red blood cells, 5,500,000
8/ 1/26	8	300,000	
8/ 2/26	9	250,000	
8/ 3/26	10	200,000	
8/ 4/26	11	200,000	
8/ 5/26	12	200,000	
8/ 6/26	13	150,000	
8/ 7/26	14	120,000	
8/ 8/26	15	100,000	Bleeding time, 12 minutes
8/ 9/26	.	100,000	

It is apparent that there was a transient increase of the platelets The bleeding time, however, became prolonged, and four days after the treatments were discontinued, large diffuse ecchymoses appeared on both lower extremities and the platelet count fell to 50,000 It was thought that the exposures were perhaps too gradually increased and at too great a distance, therefore, after a two weeks' rest, the treatments were resumed The counts were 60,000 and 55,000 on two consecutive days before the exposures, which were given at a distance of 13 inches

Table 2—*Results of Second Exposures in Case 1*

Date	Time of Exposure in Minutes	Platelets	Comment
8/25/26	..	60,000	Front and back exposed at a distance of 13 inches
8/26/26	6	55,000	
8/27/26	9	50,000	
8/28/26	12	50,000	
8/29/26	15	50,000	
8/30/26	18	60,000	
8/31/26	28	85,000	
9/ 1/26	28	.. ..	Bleeding time, 12 minutes A positive tourniquet test after 1½ minutes
9/ 2/26	28		

The subcutaneous hemorrhages continued in spite of the treatments, and five days after the treatment was discontinued the platelets were 35,000; the hemoglobin, 63 per cent, and the red blood cells, 4,500,000

Case 2—A woman, aged 31, admitted for bleeding gums, tongue and mouth, had noticed blistering of the tongue and mucous membranes of the mouth three days before admission. These blisters broke, and she spit a mouthful of blood. She visited the outpatient department where, in addition to the foregoing signs, purpuric spots were found over her body, and she was referred to the hospital. From her past history it was learned that she bruised easily and that purpuric spots appeared at the slightest trauma The physical examination revealed hemorrhages in the right palpebral conjunctiva and in the mouth also Petechiae, as well as ecchymoses, were present on her body

The hemoglobin was 70 per cent; the white blood cells, 9,600, with a normal differential count The platelets numbered 20 000 The bleeding time was thirty minutes, and clot retraction was slight after four hours.

Table 3—*Ultraviolet Ray Exposure in Case 2*

Date	Time of Exposure in Minutes	Platelets	Comment
10/21/26	3	35,000	Bleeding time, 10½ minutes; front and back exposed at a distance of 18 inches
10/22/26	6	. ..	
10/23/26	9	40,000	
10/24/26	12	50,000	
10/25/26	15	.	Bleeding time, 45 minutes; menstruating
10/26/26	18	28,000	
10/27/26	28	45,000	Bleeding time, 9 minutes

Case 3—A woman, aged 24, had had a tendency to bleed since childhood The bleeding from the gums and into the skin would occur on and off The slightest injury produced ecchymoses, and about eight years before admission, her condition was severe enough to require a transfusion During the past two months the bleeding from the gums and into the skin had become considerably worse, and she decided to enter the hospital On admission she also complained of dizziness, weakness and nausea The patient was well developed and well nourished, but pale, she had numerous petechiae and ecchymoses and bled from the gums The hemoglobin was 25 per cent; the red blood cells, 1,600,000, the white blood cells, 8 200, with a normal differential count The platelet count was 60,000, the bleeding time, fourteen plus minutes; clot retraction was slight after four hours

Table 4—*Effects of Ultraviolet Ray Exposure in Case 3*

Date	Time of Exposure in Minutes	Platelets	Comment
2/10/27	6	50,000	..
2/11/27	9	. ..	
2/12/27	..	. .	
2/13/27	..	80,000	Hemoglobin, 38%; red blood cells, 3,200,000
2/14/27	12	... ..	
2/15/27	15	.	
2/16/27	18	120,000	Hemoglobin, 40%, bleeding time, 21 minutes
2/17/27		. . ..	
2/18/27	25	. ..	
2/19/27	28	.	
2/21/27		40,000	Red blood cells, 3 200,000
2 23 27	..	50,000	

It can be seen in table 4 that four days after admission, and after only two periods of exposure, the hemoglobin and the red cell count doubled The platelet count, however, hardly changed, and it is likely that the patient was on the road to a recovery stage If the irradiations were really responsible for this improvement in the blood picture, one would expect more favorable results after the subsequent treatments That did not occur in this instance The bleeding time did not decrease, nor did the platelets show any change

COMMENT

Since chronic essential thrombocytopenia is a condition from which recovery, at times, occurs without any treatment, it is obvious that the evaluation of any new therapeutic measure is exceedingly difficult, and before such a measure is accepted, it must conclusively demonstrate that it alone has produced the result. There are cases on record in which the patients have been symptom free for years, only to have a recurrence at a later period. Wagner[5] cites the case of a child in whom fresh hemorrhages and ecchymoses appeared every three or four days, during a period of three years. There were also hematemesis and melena. The patient entirely recovered. Another case was observed by Osler[5] in which the patient had purpura for thirty-six years. Foerster[6] tells of two persons who were symptom free for seventeen and twenty-seven years, respectively, after an attack of purpura. In case 1, the boy enjoyed good health for about five years after the first attack, only to have a recurrence at the end of that period.

Because of the knowledge that patients often recover spontaneously, the treatment in the mild cases has been expectant and hygienic, while in the more severe ones transfusion has been the choice method of therapy. It was observed, however, that though many persons recovered, a group failed to improve, and deaths occurred in spite of repeated transfusions. Since better means for treating this condition were not available, transfusion was most frequently employed until Kaznelson[7] introduced splenectomy as a cure for essential thrombocytopenia. That this method of treatment is effective is shown by the report of Leschke and Wittkower,[8] who collected reports from the literature of fifty-seven patients treated by this operation. Of the persons so treated, two did not show improvement, nine died and the remainder improved and did well. This result is very promising, since in most cases splenectomy was resorted to as a life saving measure after all other methods of treatment failed. The hemorrhagic tendency decreased after the operation, in spite of the fact that the platelet count was subnormal after a transient postoperative rise.

Other methods of treatment have been used. Nagy,[9] believing that in females this condition is due to some ovarian dysfunction, reports that two cases, in which the ovaries were treated by roentgen rays, showed an elevation of platelets, as well as clinical improvement. Goia[10] states that he obtained excellent results by roentgen-ray irradiation of the spleen. In his case the improvement was only clinical without a concomitant increase in the number of platelets. Sooy and Moise state that by their method of therapy, namely, exposure to the mercury vapor lamp, the improvement was noted from the clinical and the hematologic standpoint. Thus, there are many cures for essential thrombocytopenia, all of which are claimed to be successful. This per se is not undesirable; but, in a disease in which recovery is often spontaneous, the efficacy of too many procedures producing a cure is to be questioned. For, to qualify as a cure and to earn recognition, the measure affecting the disease must, in most cases, produce the same final result under similar conditions, and while this statement is true for cases so treated by splenectomy, it fails to hold when applied to other therapeutic measures used in chronic essential thrombocytopenia.

I have treated three cases by the mercury vapor lamp. The cases so treated were of the chronic variety. In none of the cases have I noted an improvement, and while I do not wish to generalize regarding this method of treatment, it can be emphatically stated that in my hands at least, the method failed to produce the results claimed for it.

2 East Ninety-Fourth Street.

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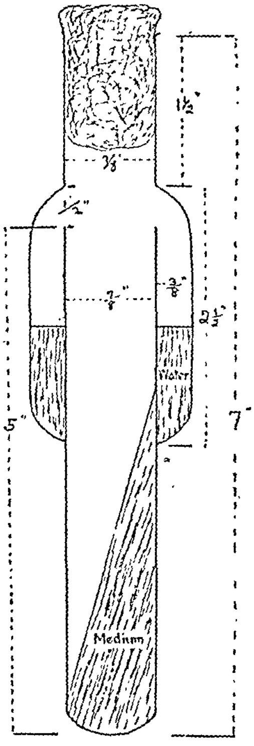
5. Osler's Modern Medicine **4:** 712-713, 1908.
6. Foerster, A.: Ueber Morbus maculosus Werlhofii, Ztschr. f. klin. Med. **92:** 170 (Nov.) 1921.
7. Kaznelson, P.: Verschwinden der hämorrhagischen Diathese bei einem Falle von essentieller Thrombopenie (Frank), nach Milzextirpation, Splenogene thrombolytische Purpura, Wien. klin. Wchnschr. **29:** 1451, 1916.
8. Leschke, E., and Wittkower, E.: Die Werlhofsche Blutfleckenkrankheit, Ztschr. f. klin. Med. **102:** 649 (Feb.) 1925.
9. Nagy, G.: Kastrationsversuche mit Ovarialbestrahlungen beim chronischen Werlhof, Ztschr. f. klin. Med. **102:** 284 (Nov.) 1925.
10. Goia, I.: Un cas d'hémogenie amélioré par la radiothérapie, Bull. et mém. Soc. méd. d. hôp. de Paris **50:** 555 (April) 1926.

Clinical Notes, Suggestions and New Instruments

A MOISTURE-RETAINING TEST TUBE[*]

W. W. Bacon, M.S., Boulder, Colo.

As a result of the dryness of the air in the southwestern Rocky Mountain section of the country, solid bateriologic mediums tend to dry out very rapidly, necessitating frequent transplantations to fresh, moist mediums. This drying out is an especial handicap in the case of cultures of slow growing micro-organisms, such as the tubercle bacillus, which must be incubated for long periods. Agar slant cultures of tubercle bacilli in standard test tubes frequently dry out before there is any appreciable growth.



Moisture-retaining test tube.

In an attempt to overcome this difficulty, the moisture-retaining test tube illustrated in the diagram was devised. The test tube can be made by fusing an outer pyrex cylinder, 2½ by 1⅝ inches, on an inner upper pyrex cylinder 1½ by ⅞ inches, and on an inner, lower pyrex cylinder of the same diameter, 5 inches long and sealed at the bottom. A less compact tube can be made by fusing a water jacket on a common 7 inch test tube.

One of these test tubes, containing an agar slant, was inoculated with tubercle bacilli, March 16, 1926, and incubated for two months. An abundant growth developed. The moisture-retaining tube containing this culture was then put in the ice chest for about five and a half months. At the end of this time, Aug. 26, 1926, a transplant was made, and the tubercle bacilli were shown to be alive. At the time of writing, Nov. 13, 1926, the same culture, now 8 months old, is in the laboratory, and the medium does not show any appreciable drying out.

Sterile water was added to the water jacket three times in eight months, to replace loss by evaporation. Ten other tubes like the one described, have been used, and found satisfactory.

The tube has the following advantages over sealing by paraffin, rubber dam, corks and other such devices: The moisture is retained for a longer time, it is easier to get into the tube, and the free passage of air, which is prevented by the methods of sealing mentioned, is permitted.

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[*] From the Henry S. Denison Laboratory of Biological Research, University of Colorado.

SUBSTERILIZING INTRA-UTERINE RADIUM EXPOSURES: REPORT OF TWENTY-FIVE TREATMENTS

Douglas P. Murphy, M.D., Rutherfordton, N. C.

Intra-uterine radium radiation is practically a specific for benign menopausal hemorrhage. A permanent sterility follows the usual exposures employed. The use of short exposures is not so well or generally understood and is feared because of possible sterilizing effects.

At the Rutherford Hospital between July 1, 1922, and Dec. 31, 1925, thirty-eight women in the child-bearing age received varying sized intra-uterine radium exposures all less than 1,000 millicurie hours each. One year following the last treatment, questionnaires were sent out and answers were received from twenty-five patients, or sufficient data were secured to make their records of value for this study. The accompanying table outlines the data received, which may be thus summarized:

The age range of these patients was from 17 to 42 years, with an average of 28 years. All were white but two. Nineteen were married. Seventeen complained of metrorrhagia, seven of menorrhagia, while three of the latter suffered from severe dysmenorrhea.

*Substerilizing Intra-Uterine Radium Exposures**

Number	Age	Color	Married	Metrorrhagia	Menorrhagia	Dysmenorrhea	Millicurie Hours	Months Observed	Amenorrhea in Months	Hot Flashes	Periodicity Improved	Periods Shortened	Subsequent Pregnancies	General Benefit	Additional Data
1	31	W	+	+	—	—	500	12	2	+	+	+	—	+	
2	34	B	—	+	—	—	500	18	1	+	+	+	—	+	
3	29	W	+	—	+	—	740	18	4	—	+	+	—	+	
4	39	W	+	+	—	—	862	27	2	+	—	+	—	+	
5	35	W	+	+	—	—	600	22	3	+	+	+	—	+	
6	28	W	+	+	—	—	600	36	—	+	+	+	—	+	
7	35	W	+	—	+	—	400	26	—	..	..	—	—	—	Complete failure
8	27	W	+	—	+	—	468	19	—	+	—	+	Twins	+	One living and healthy, one dead after birth
9	26	B	+	+	—	—	540	16	3	+	—	—	—	+	
10	25	W	+	+	—	—	500	16	2	—	+	+	—	+	
11	30	W	+	+	—	—	600	34	9	+	—	+	—	+	
12	24	W	—	+	—	—	450	34	2	+	+	+	—	+	
13	24	W	+	—	+	+	500	39	..	..	..	..	—	—	Followed by hysterectomy
14	20	W	+	+	—	—	800	18	..	..	+	..	+	+	Obstetric death nine months later
15	23	W	—	—	+	+	400	34	—	—	+	+	—	+	
16	24	W	—	+	—	—	500	48	—	—	+	+	—	+	
17	42	W	+	—	+	—	600	2	..	..	..	..	—	—	Death two months later from pellagra
18	24	W	+	—	+	+	250	27	—	..	+	—	—	—	Complete failure
19	23	W	+	—	—	—	300	28	1	—	+	+	—	+	
20	34	W	+	+	—	—	500	29	12	—	—	+	+	+	Living healthy child
21	26	W	—	+	—	—	250	27	—	—	+	+	—	+	
22	28	W	+	+	—	—	500	12	1	—	+	+	—	+	
23	39	W	+	+	—	—	300	18	12	+	—	+	—	+	
24	17	W	—	+	—	—	600	40	—	+	+	+	—	+	
25	32	W	+	+	—	—	500	36	34	+	—	—	—	—	Permanent sterility; complete failure

* Yes is indicated by plus; no, by minus.

Radon was used. The filtration consisted of 0.5 mm. of silver, 1.5 mm. of brass and 2 mm. of rubber. The exposures varied from 250 to 862 millicurie hours each, with an average of 526 millicurie hours.

Amenorrhea and hot flashes were frequent but inconstant sequelae and seemed to bear no direct relationship to the degree of exposure. Of twenty-two answers received, fifteen reported greater regularity of their periods and eighteen noticed a definite shortening of each menstrual flow.

Three patients subsequently became pregnant. All went to term. One had twins, of which one small one died at birth and the other is living and well. One mother has a living healthy child. The third mother died following a prolonged labor and cesarean section. Her child, normal anatomically in every way, died shortly after birth apparently from the severity of the labor.

Of the twenty-five patients treated, one died of pellagra several months after treatment and four others must be classed as unsatisfactory. Sterility resulted in one instance (patient 25). The dose was not excessive and no satisfactory cause can be presented to explain its occurrence.

It may be stated that small exposures of intra-uterine radium shorten prolonged periods and tend to make them more regular. Future pregnancy can be expected without detriment to mother or child. The treatments are not without danger, but this is relatively slight.

New and Nonofficial Remedies

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application. W. A. Puckner, Secretary.

ERYSIPELAS STREPTOCOCCUS ANTITOXIN (See New and Nonofficial Remedies, 1927, p. 337).

Lederle Antitoxin Laboratories, New York.

Erysipelas Streptococcus Antitoxin (Lederle) Unconcentrated.—This antitoxin is prepared by immunizing horses by subcutaneous injections of the toxic filtrate obtained from broth cultures of the erysipelas streptococcus, or by intravenous injection of cultures of the erysipelas streptococcus obtained from typical cases of erysipelas. When test bleedings show the serum to have reached a sufficient degree of potency, the blood is drawn under aseptic conditions, the serum is separated, clarified by Buchner filtration, sterilized by Berkefeld filtration and tested until the desired potency is obtained, this being determined by making serial dilutions of the serum with equal volumes of a dilution of erysipelas toxin of such strength that 0.1 cc. of the toxin antitoxin will contain one skin test dose of the toxin. Erysipelas streptococcus antitoxin (Lederle) unconcentrated is administered in early cases of moderate severity in dosage of 12 cc intramuscularly; in severely toxic and late cases, 36 cc. to 48 cc. intramuscularly, or 24 cc. to 36 cc. intravenously. Marketed in packages of one syringe, containing 12 cc.

Internal Changes in the Strong Emotions.—If a cat which has been fed a meal of gruel containing bismuth, a substance opaque to x-rays, is placed before the screen of a fluoroscope, the normal rhythmic, churning movements of the stomach can be clearly observed. If the cat is angered by a barking dog, these movements (of peristalsis, so called) may be greatly diminished; in fact, they often cease altogether. Even in milder vexation, such as that produced by tying a small stick to the cat's leg, the stomach movements may be inhibited. The glandular activities of digestion are similarly diminished or stopped; the flow of saliva may stop, producing the dry mouth characteristic of fear, rage or nervousness. The secretion of gastric juice is similarly diminished. In a typical experiment on an angered dog, instead of the usual 65 or 70 cubic centimeters of gastric juice, less than 9 cubic centimeters (and this of poor quality) were secreted. Thus the whole digestive process is side-tracked.—Gates: Psychology for Students of Education, p. 162.

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SATURDAY, JULY 30, 1927

CULTURES OF LACTIC ACID PRODUCING ORGANISMS

The extreme views originally formulated by the French microbiologist Metchnikoff with regard to the beneficent rôle of lactic acid producing bacteria in the alimentary canal are no longer seriously considered. Furthermore, there is general agreement among critical bacteriologists that *Bacillus bulgaricus,* to which Metchnikoff attributed the unique efficacy of prolonging life by promoting more wholesome microbial conditions throughout the intestinal tract, cannot be made to grow there by administration of living cultures of the organism. On the other hand, it seems to be fairly well established that the somewhat related *Bacillus acidophilus* is more easily adapted to intestinal growth by implantation. Consequently, efforts to secure therapeutic advantages through administration of lactic acid producing bacteria have of late been directed to this species. It is nonputrefactive and apparently harmless in nature. Whether and, if so, to what extent the administration of cultures of *Bacillus acidophilus* is actually efficacious in correcting disorders of the intestinal tract cannot be answered categorically at present. It would not be difficult to secure an abundance of testimonials with respect to a variety of wholesome effects attributed to the administration of the micro-organisms.

It should be recalled, however, that fermented and soured milks have long had considerable vogue, notably in the field of pediatrics; and even severe critics will admit that for certain types of gastric and intestinal disturbances soured milks exhibit some dietary advantages. As a consequence, pseudoscientific promotion of lactic acid producing bacteria has become familiar, and in some instances it approaches outspoken quackery. The Council on Pharmacy and Chemistry of the American Medical Association[1] has attempted from time to time to issue conservative, tolerant statements regarding the status of the uncertain lactic acid bacillus therapy. Furthermore, it has endeavored to establish the conditions under which alone, if at all, actual implantation effects can be expected. Thus, acidophilus milk and broth cultures and concentrates of *B. acidophilus* are not considered acceptable unless the number of viable organisms contained in a stated quantity is clearly stated, and the broth cultures and concentrates are made to indicate the need of the coincident administration of carbohydrates, such as lactose and dextrins. Other preparations of *B. acidophilus,* such as tablets, emulsions and candies, will not be accepted unless adequate evidence is presented that implantation of the bacteria may be secured through their use.

The wisdom of the Council's cautions is indicated by the recent investigations of James[2] in the microbiologic laboratory of the Bureau of Chemistry, U. S. Department of Agriculture. This survey of a number of marketed preparations indicated that samples representing cultures of both *B. acidophilus* and *B. bulgaricus* are not infrequently worthless. As was anticipated, the milks showed the highest average counts, the whey cultures next to the highest, and the solid cultures the lowest. Contaminating micro-organisms were also more common in the latter. Out of more than a hundred samples of the various sorts examined, only thirteen produced in reasonably fine form and in satisfactory numbers the species claimed on the label. The latter is an important item in view of the fact that successful implantation unquestionably requires introduction of massive doses. It is significant that the government writer makes a plea for a revision of the current methods of marketing acidophilus and bulgaricus cultures, and for adequate, scientific supervision of the purity and viability of such products. The layman and the physician alike should be made to realize that, as James points out, there are few commodities on the retail market the quality of which is so dependent on scientific control as the preparations of lactic acid micro-organisms.

THE PHYSICIANS' HOME, INC.

Among the numerous philanthropies to which physicians are being urged to contribute, few have occasioned so much interest during the last five years as the project to establish a national home for indigent and incapacitated physicians. The idea itself is obviously such as will arouse at once the tender compassion of those whose occupation is compassionate. When the heart-strings are wrung, reason retires. Few physicians stop to inquire whether there is any considerable number of physicians requiring such a home, whether they would enjoy such an institution once they consented to retire to its sheltering walls, whether the plan for a home is sound economically, and whether the burden is such as the medical profession as an organization might well undertake. The House of

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[1] The Present Status of Bacillus Acidophilus and Bacillus Bulgaricus Therapy, J. A. M. A. 87:172 (July 17) 1926.

[2] James, L. H.: Commercial Bacillus Acidophilus and Bacillus Bulgaricus Cultures and Preparations, J. A. M. A. 89:89 (July 9) 1927.

Delegates, at its meeting in Dallas, authorized the appointment of a special committee to answer these questions. This group, headed by Dr. George H. Simmons, the distinguished editor and general manager emeritus of the Association, made its report at the recent session in Washington.

A survey conducted by communication with the secretaries of county medical societies throughout the country revealed that there were a few cases of temporary pecuniary stress brought on by illness, by accident, or by other causes that called for temporary relief only, and exceedingly few of permanent indigence. Several state associations and county medical societies have well defined plans for meeting these needs; they render aid quietly and without publicity. The results of the investigation convinced the committee that the need for a national home for incapacitated and indigent physicians is not sufficient to warrant the American Medical Association in establishing, managing and sustaining a home. The committee did not consider the matter from the economic point of view alone. "To remove a physician from the community in which he had long practiced and in which he had many old patients as well as friends, both lay and medical, would be unkind," says the report. "Old people cling to their old associates, and an old physician is not an exception. The committee believes that it would be better to render such aid as would make it possible for a physician, indigent and incapacitated, to end his days among those whom he knows and who know him."

During the time when the official committee of the American Medical Association was making its investigation, the corporation concerned in the promotion of the plan for a national physicians' home was engaging in several ventures to provide money for the purpose. A theatrical benefit seems to have turned out somewhat of a fiasco so far as concerned any important contribution to the good of the medical profession. The most recent exploit seems to be the publication of a large tome to be called "A History of the Physician." The prospectus, bound in imitation leather, colored maroon and stamped in bronze, is typical of similar devices. Gimcracks and ginger-bread adorn its pages. Imposing lists of sponsors, officers, directors and sponsoring committees are supplemented by a list of cooperating organizations, in which appears somehow the name of the American Medical Association. This inclusion is absolutely unauthorized and without warrant. The table of contents indicates that the book will begin with primitive medicine and consider every possible aspect of medical history and medical relationships, many chapter headings being left blank so that the prospective purchaser may use his own imagination. There are pages in the prospectus devoted to architects' drawings of homes in Virginia and Connecticut that may be used if all the plans go through. There are pages devoted to "God Bless Our Home" mottoes planned to confer a feeling of satisfaction on the prospective medical contributor. There are pages with facsimiles of letters from the medical great and near great, many of whom have apparently endorsed without enquiring. There are no pages of advertisements but many of the corporations that thrive on medical patronage have already purchased all or parts of pages, and some of the advertisers on this list could not even get into a respectable newspaper. At least a dozen advertisements may concern preparations not accepted by the Council on Pharmacy and Chemistry for New and Nonofficial Remedies.

The modern philosopher might well wail: "Charity, Charity, what sins are committed in thy name!" Inveigled into dozens of philanthropic schemes for the benefit of mankind in general, donating his services constantly where they ought to be purchased, the doctor is now asked to contribute toward the support of a venture for the care of the indigent and incapacitated among his own group, which includes at the same time, no doubt, at least the usual percentage for the promoter. If he does so, let it be with a full understanding of the situation. A representative committee of the American Medical Association has declared the scheme unsatisfactory from many points of view. The officers of the Association are continuing the study to determine the extent of the need for financial assistance by reputable physicians who have fallen upon hard times.

"KEEP AWAY FROM MONTREAL"

The remarkable report on the Montreal typhoid epidemic recently made by a board of officers of the U. S. Public Health Service and previously abstracted in THE JOURNAL [1] gives, perhaps, as much as may ever be known about one of the most deplorable outbreaks of modern times. The dimensions of the epidemic alone—4,755 typhoid cases between March 1 and June 28, 1927—mark it as the most extensive epidemic of the twentieth century and one of the worst ever recorded anywhere.

Perhaps the most unexpected and altogether astonishing thing about the Montreal outbreak is the way in which the situation was handled, or rather not handled. *Although the epidemic apparently originated about* February 15, it seems to have been allowed to drag on for weeks, and after suffering temporary cessation between March 27 and April 20, to break out afresh in another sharp rise culminating early in May. Through all this period the city health officer, although cognizant of his responsibilities, was never given service and *equipment to meet the emergency.*

The report cited indicates that the cause of the outbreak was of relatively simple character and might have been readily controlled at an early stage, thereby saving untold suffering and loss of life. The raw milk coming to one of the large dairy companies was derived from a district in which sanitary conditions were unsatisfactory. If this milk had been pasteurized efficiently and completely, the danger might have been averted. There is reason to believe, however, that more raw milk was received at the pasteurizing plant than was ever run through the pasteurizer. In other words, raw milk from a typhoid-infected district was delivered to many consumers in the city of Montreal during a prolonged period. This is obviously a situation which might have been discovered early and remedied promptly. The medieval indifference that allowed a devastating typhoid epidemic to run on week after week without adequate investigation or the application of easily applied methods of prevention is no matter for civic pride. The citizens of Montreal will doubtless have a day of reckoning with the officials responsible for this disaster.

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[1] Report of Board on Typhoid in Montreal, General News, J. A. M. A. 89:217 (July 16) 1927.

Meanwhile the obligation of American sanitarians to our own people is clear. Montreal and its vicinity constitute for the present a dangerous locality. Who knows how much typhoid is still developing in that region? The number of new cases of typhoid reported for the ten days ending June 28 averaged more than ten a day according to the report of the investigating board. In any case there has been unquestionably in Montreal and its neighborhood an enormous increase in the number of typhoid carriers and typhoid convalescents. Some of these are doubtless at the present time engaged in the preparation or handling of food, so that secondary cases or even minor epidemics may be expected. For some time to come the whole region is hardly a safe playground for American tourists. It is with ample justification that sanitary authorities in the United States are passing round the warning, "Keep away from Montreal!"

FOODS IN DIABETES

The selection of suitable foods has always played an important part in the management of diabetes. A generation ago the chief concern was centered in the reduction of the carbohydrate intake; consequently, in the choice of articles of diet preference was given to those relatively poor in sugars and starches. The expression "diabetic food" came into vogue to designate a variety of products, some of them specially selected or prepared for this use, and all having in common a content of carbohydrate notably below that of ordinary products of the same class. An official definition was presently formulated by governmental authority, permitting the application of the term diabetic to indicate that a food contains "not more than half as much glycogenic carbohydrates as the normal food of the same class." Thus "diabetic flours" came into some vogue.

The outlook on the dietotherapy of diabetes has been considerably altered in more recent years. It is no longer merely the carbohydrate in the food that merits attention. Sugar can be formed from protein; consequently this nutrient deserves consideration. In the management of the possible ketosis, the choice of a regimen in which the ketogenic-antiketogenic ratio of the foodstuffs comes into question must also be taken into account. On this basis the fat intake may need restriction. Furthermore, the possibility of using insulin where it seems desirable has in turn made a revision of the proportions of the different foodstuffs possible in suitable cases.

A recent writer has pointed out that the term diabetic, as applied to foods, has been much abused in the past; many foods which differ little from common foods of the same class have been designated by that term. Moreover, it may be true that some patients have been led to believe that foods bearing the qualification "diabetic" are curative or mitigative in themselves rather than merely dietetic adjuncts. For these reasons regulatory officials have become inclined to discourage the use of the term diabetic as a part of the name of these special foods and in explanatory literature concerning them. Accordingly there is no longer any federal definition of a diabetic food.[1] Since such products are offered as dietetic aids in the control or mitigation of disease, they are regarded by food control officials as therapeutic agents rather than as foods and more properly regulated under the provisions of the Food and Drugs Act which refer to drugs.

The chemist of the Connecticut Agricultural Experiment Station at New Haven, which has for many years given considerable attention to the analysis of special foods offered for use in the dietary of the diabetic patient, has also abandoned the term "diabetic food." In his latest review, Bailey[2] remarks that successful diets for patients with diabetes may be formulated by proper selection of common foods quite as well as by the use of special foods, although there can be no objection to such special foods when offered without misrepresentation. Many of them, no doubt, serve useful purposes. Such special products, he adds, are expensive in most cases, however, and many physicians hesitate to encourage their use for that reason. Because of this, and also because of the increased tolerance which the use of insulin affords, the utilization of common foods is of increasing interest to the physician and to the patient.

These attitudes make it increasingly more important for the physician and the dietitian to become familiar with the composition of ordinary as well as special foods. The new report of the Connecticut Station is a welcome addition to the available sources of information in that it gives the appropriate analyses of many hundreds of both classes of foods. Like its predecessors it will be a vade mecum regarding the numerous products marketed with special claims of usefulness in the diabetic dietary. With this pamphlet at hand there is no justification whatever in prescribing to patients a high priced advertised "diabetic" food that may include, as sometimes is the case, 50 per cent or more of starch in its make-up. Dr. Bailey has again performed a useful service in providing reliable information as to the composition of these foods for the guidance of physicians, dietitians and others interested in diabetes and in diabetic treatment.

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[1] Revoked by U. S. Department of Agriculture, food inspection decision 199.

[2] Bailey, E. M.: The Thirty-First Report on Food Products and the Nineteenth Report on Drug Products, Part I, Analyses of Common Foods and Special Foods, Bull. 286, Conn. Agr. Expt. Station, April, 1927. This bulletin is mailed free, so far as the edition permits, to all who apply for it to the Connecticut Agricultural Experiment Station, New Haven, Conn.

Current Comment

THE PULMONARY CIRCULATION TIME

The circulation time, by which is meant the period that elapses while a substance introduced into the blood stream completes the circuit of the vascular system and returns to the place of introduction, has long since been measured and has become a well defined fact of physiology. When one considers that the circulatory route to be traversed includes the slower streams of the capillary beds of both the systemic and the pulmonary systems as well as the more rapid channels of the arterial and venous vessels, the time involved—amounting to seconds rather than minutes—is surprisingly small. In the pulmonary circulation the blood must traverse the enormous network of lung capillaries where the gaseous exchanges with the respired air take place. The chambers of the heart also offer some resistance, which demands time for its mastery. The duration of this pulmonary circulation time has recently been measured in man for the first time by Blumgart and Weiss.[1] The average duration in resting males is only six and five-tenths seconds, with a range extending from four seconds to eleven seconds. This is a marvel of physiologic "rapid transit" which is surpassed by few bodily functions aside from those that occur in "the twinkling of an eye."

INCUNABULA AND WOODEN NUTMEGS

It is alleged that an early Connecticut Yankee made and sold wooden nutmegs. Evidently not all of those who possessed his type of genius came over in the *Mayflower*, or in the various galleons, caravels, barks, brigs, barkentines and packets that followed that capacious little craft to these shores. A certain number remained in the old country, that they and their offspring might conduct an uninterrupted old home week for returned Americans. For a consideration, the descendants of these old inhabitants will part with such ancient books, manuscripts and incunabula as have come into their possession. The embarrassing matter of the consideration involved invites remark, although the fault does not all lie with the old inhabitants. Until about two years ago a collector of old medical books could put aside small coins in a corner of his escritoire with confidence that eventually he could acquire from his dealer some old work on which he had set his heart. The market was more or less stable. Such a collector knew values, and book sellers were aware that he knew them. Then came an influx of tourists, largely from America, too many of whom had unlimited letters of credit and a limited sense of values. Prices of old medical books began to climb. Formerly the Aphorisms of Hippocrates, edited by François Rabelais in 1543, could be bought for from $60 to $80. In a recent Paris catalogue it is listed at the equivalent of $160. Perhaps an occasional American physician gets his money's worth if he can show such a work to the boys in the medical society back home, but this is not the attitude of the discerning American collector The achievements of American medicine are respected in Europe, but the disposition of many Americans to allow themselves to be exploited by continental antiquaries does not pass for culture on either side of the water.

THE BRIGHT'S DISEASE CENTENARY

On July 8 an interesting ceremony took place in Guy's Hospital in London to celebrate the discovery one hundred years previously of Bright's disease by Dr. Richard Bright, who was physician to that hospital from 1820 to 1843. The proceedings included a demonstration of the pathology of Bright's disease by Prof. Ludwig Aschoff of the University of Freiburg, a discourse on the physiology of the subject by Professor Lemierre of the University of Paris, a luncheon, and the Bright Memorial Oration delivered by Dr. W. S. Thayer, President-Elect of the American Medical Association. In his address, Dr. Thayer outlined the life and education of Richard Bright leading to the publication of his first book at the age of 26. In 1820 Bright became assistant physician at Guy's Hospital and for the next seven years devoted himself to clinical study and particularly to morbid anatomy, publishing in 1827 his famous "Reports of Medical Cases Selected with a View of Illustrating the Symptoms and Cure of Disease by a Reference to Morbid Anatomy." Professor Thayer credited Bright also with forestalling what is now the accepted method of conducting medical research, namely, by cooperation and team work. At the conclusion of his address, which is to be published in full in the *Guy's Hospital Reports*, Dr. Thayer was presented with a unanimous vote of thanks and then with the Bright Memorial Medal. In tendering him the medal Lord Balfour thanked Professor Thayer for his "presentation of a great man of science who was also a beautiful character, and took delight in the fact that he himself had recommended Sir William Osler to the regius professorship at Oxford, so that he was partly responsible for the succession by Dr. Thayer to Osler's position at Johns Hopkins University. The occasion was a felicitous demonstration of the international character of medical science and of the recognition of scientific achievement. The American representative could not have been better chosen as an example of leadership in clinical practice, in research and in medical organization.

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[1] Blumgart, H., and Weiss, S.: The Normal Pulmonary Circulation Time in Man, Am. J. Physiol. **81**: 466 (July) 1927.

Medical News

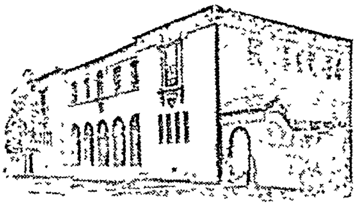
(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Licenses Revoked.—At the meeting of the state board of medical examiners, San Francisco, June 28, the licenses of Drs. Frederick K. Lord, Ceres, Eldridge R. Morlan, Fellows, and Willie E. Williams, Los Angeles, were revoked.

"Professor" Kimbro Arrested.—An agent of the state board of medical examiners brought about the arrest recently of "Prof. S I. Kimbro" of Los Angeles, on a charge of violating the medical practice act. Professor Kimbro is said to have a city physical culture license, and to call his place "The Kimbro Health Institute." He has a treatment room where he prescribes diet, exercise and gives manipulative treatment. John Mackay of Redlands went to see Kimbro, recently, and was injured at his first examination to such an extent that he had to remain in Los Angeles under the care of a physician for about two months. Professor Kimbro is said to have secured from another patient $1,000 in cash by giving a chattel mortgage on his "autonormalizer."

Zoological Hospital Offers Facilities to Physicians.—About 135 physicians and other scientists attended the recent dedication, sponsored by the Zoological Society of San Diego, of the Zoological Hospital and Research Institute, San Diego, which is a gift of Miss Ellen C. Scripps. Physicians interested in research are invited to avail themselves of its facilities, no charge being made except for material used or broken. The building is located in a large zoological garden. It will be a hospital for animals in the zoo and pathologic tissues from zoos throughout the country will be collected for a study of animal diseases. Physicians, research workers and students in biology will find here the necessary equipment for carrying on research. There are eleven small laboratories, each equipped for special work, a roentgen-ray and dark room, a library, general laboratory, technician's laboratory offices and morgue and a photomicrographic outfit. The plan is to afford college professors and advanced students an opportunity to continue studies when in California, and to attract biologists interested in avian and mammalian research, as do some noted marine biologic stations. Further information will be given on request to the hospital, Balboa Park, San Diego. Dr. Rawson J. Pickard is chairman of the hospital and research committee, and H. C. Goodsil, director of research and education.



DISTRICT OF COLUMBIA

Nation's Capital a Paradise for Cultists.—The Washington *Evening Star* has published a series of front page articles which purport to show the inadequacy of the medical practice act of the District of Columbia, and that unqualified practitioners are permitted to treat human ills. According to the *Star*, there are about 300 practitioners of various kinds who have been permitted to open offices and use the title "doctor" without an examination to determine their qualifications. A reporter who claims to be in good health visited six different practitioners, including two chiropractors, an osteopath, a naturopath, an electrotherapist and an iridologist to find out what caused his alleged symptoms which were a "pulled feeling" and a "desire to refrain from active work." The first chiropractor is said to have told the patient that he had "two subluxations of the spine"; the second chiropractor told him that he had three spinal curvatures affecting the heart, liver and kidneys; Dr. "Three," an electrotherapist, said that he had a collapsed abdomen; Dr. "Four," a naturopath, told him that he had run-down glands; Dr. "Five," an iridologist, said that he had an abscessed stomach and that his transverse colon was "all shot"; Dr. "Six," an osteopath, said that he had faulty metabolism and two slight osteopathic lesions of the spine which could be remedied by about two months of steady treatment. The reporter considered that that was enough. In his articles he points out that doctors of medicine in Washington are licensed after an examination; also that there are laws which govern the conduct of banks, and that the plumbers are licensed, but that there is a host of drugless healers in town who are "incapable of telling a man that his tongue is coated" who are permitted to treat the human body without license, without examination, without inspection, without any standard by which their skill may be measured. The medical practice act of the District of Columbia makes it unlawful for any one to practice medicine and surgery without having been licensed to do so.

FLORIDA

Personal.—Dr. William N. Parkinson has assumed the duties of chief surgeon of the Florida East Coast Railway vice Dr. Joseph N. Fogarty.——Dr. Joseph L. Kirby-Smith, Jacksonville, chairman of the section on dermatology and syphilology of the Southern Medical Association, received the honorary degree of doctor of science at the fifty-ninth commencement of the University of the South, Sewanee, Tenn.; General Gorgas received the only other degree of this kind that the university has granted.

Society News.—The Duval County Medical Society, Jacksonville, June 7, held a symposium on pellagra, with Dr. Joseph L. Kirby-Smith discussing the dermatologic point of view; Dr. Stanley Erwin, the internist's point of view; Dr. James H. Randolph, that of the neurologist, and Dr. James Frank Wilson, treatment. Dr. Wilson presented two cases which had been successfully treated with neoarsphenamine and diet.——At the June 14 meeting of the Volusia County Medical Society, a basket picnic was held at the De Leon Springs, attended by about seventy-five persons, including the families of the members. The meeting was so enjoyable that another outing this summer has been planned which will be held at Daytona Beach.——At the recent meeting of the Suwanee River Medical Society held at Jasper, Dr. J. Marvin Price, Live Oak, read a paper on "Anesthesia in Childbirth," and Dr. Daniel Newman Cone, White Springs, read a paper on "Hydrophobia." At the June 10 meeting of the society, Dr. James Knox Simpson, Jacksonville, spoke on "Congenital Hypertrophic Pyloric Stenosis," and Dr. Wilfred M. Shaw, Jacksonville, demonstrated this condition with lantern slides.

IDAHO

State Medical Meeting.—The annual meeting of the Idaho State Medical Association will be at Twin Falls, August 29-31, under the presidency of Dr. Duncan L. Alexander, Twin Falls, who will deliver his address at the banquet at the Rogerson Hotel, Tuesday evening; Dr. Joseph A. Pettit, Portland, Ore., a trustee of the American Medical Association, will speak on "Periodic Health Examinations and Public Health League." Tuesday morning, following a series of clinics and visits to the local hospitals, Dr. Constantine F. Kemper, Denver, will speak on "Treatment of Diabetes and Its Complications"; Tuesday afternoon, Dr. Joseph Aspray, Spokane, Wash., will speak on "Electrocoagulation of Accessible Malignant and Nonmalignant New Growth," and Dr. Clifford G. Grulee, Chicago, "Clinical Course and Treatment of Lobar Pneumonia in Young Children." Wednesday morning, Dr. George A. Downs, Spokane, Wash., "Gasserian Ganglion Surgery"; Dr. Grulee, "Roentgen-Ray Manifestations of Bone Change in Children," and Dr. Kemper, "Diagnosis of Goiters." Other speakers whose subjects have not yet been announced will be Drs. James Tate Mason, Seattle; Isaac H. Moore, Seattle; William C. Finnoff, Denver; Paul B. Magnuson, Chicago, and several physicians of the state of Idaho.

ILLINOIS

Personal.—Dr. Franklin T. Brenner, Quincy, was guest of honor at a banquet, June 9, given by his associates and friends to celebrate the completion of twenty-five years as a member of the staff of St. Mary's Hospital.——Dr. Edwin J. Kehoe, Dayton, Ohio, has assumed the duties of superintendent and medical director of the county tuberculosis sanatorium at Pontiac.——Dr. Earl B. Miller has resigned as medical director of the Elm Grove Sanatorium, Bushnell, effective, July 31, to become medical director of Hillcrest, the Adams County Sanatorium.

Chicago

Society News.—The recently elected officers of the Chicago Tuberculosis Society are Dr. Walter H. Watterson, president; Dr. Edwin B. Tuteur, vice president, and Dr. Samuel

A. Levinson, secretary-treasurer. There will be no meetings of the society until October.

New Telephone Arrangement.—The Chicago Medical Society, since July 1, has connected its switch board with the Doctors' Private Wire Service, 208 West Washington Street. At the close of the day, the society notifies this service to take the calls for nurses, and they are given a list of available graduate, undergraduate and practical nurses. Their secretaries are on duty at all hours, so that when a nurse is needed it is only necessary to phone in the usual way. This arrangement makes unnecessary the employment of evening and night attendants at the society's office.

State Opens Laboratory in Chicago.—A new laboratory for diagnosis was opened in the Illinois Research Hospital Building, 1817 West Polk Street, July 18, under the direct supervision of the state health department. Dr. Lloyd Arnold, professor of bacteriology and preventive medicine, University of Illinois College of Medicine, will be in charge. The laboratory services, it is reported, will be free to physicians and other citizens of the state. Several rooms in the basement of the research hospital have been set aside for this work. There is a full-time staff of bacteriologists, serologists and chemists.

INDIANA

Appointments to State Podiatry Board.—Drs. Eldridge M. Shanklin, Hammond, and Jesse W. Bowers, Fort Wayne, members of the Indiana State Board of Medical Registration and Examination, were reappointed members of the Indiana State Podiatry Board. These physicians, along with Ross S. Hackett, Michigan City, and Daniel R. Tucker, Indianapolis, podiatrists, form the podiatry board, which is under the supervision of the state board of medical registration and examination.

Personal.—Dr. John S. Ragan, Plainfield, celebrated his fiftieth anniversary as a practitioner of medicine, July 9.——Dr. Edwin Rogers Smith addressed the Indianapolis Rotary Club at the Claypool Hotel, July 19, on "Mental and Nervous Cases and Treatment."——Dr. Charles A. Miller, Princeton, secretary of the Gibson County Medical Society, has been appointed surgeon to the Southern Railway System to succeed the late Dr. Robert A. Cushman in that district.——Drs. Edgar F. Kiser, Fred E. Gifford and Judson D. Moschelle, all of Indianapolis, will attend the International Congress on Goiter to be held at Berne, Switzerland, August 24-27.——Dr. Levi B. Hill, Seymour, president of the Jackson County Medical Society, has retired from the practice of medicine because of ill health, and has gone to Baraboo, Wis., to live with his son.

Medical Library at South Bend.—About fifteen years ago, Drs. Stanley A. Clark, Roscoe L. Sensenich and Charles S. Bosenbury of South Bend jointly subscribed $500 to equal a public appropriation for a medical section in the South Bend Public Library. They also donated books from their own libraries. Thus began a medical library which now amounts to about 3,000 volumes and fifty medical journals. Books have been donated by persons in several states, and one of the most prized collections is a complete bound set of The Journal of the American Medical Association. There are other volumes of historical interest, some very old. The librarian each year requests the president of the St. Joseph County Medical Society to recommend books which would interest physicians. A fund is provided by the board of education to buy books, and the county medical society supplements this to purchase medical periodicals in several languages.

Society News.—The dentists were hosts at a dinner given to the Sullivan County Medical Society, June 15, at the Sullivan Country Club; there was a musical and literary program.——Members of the Tri-County Medical Society and their families were guests of the Henry County Medical Society, July 19, at a picnic at the Westwood Country Club, New Castle; there was a scientific program, and the day was spent in golf, tennis and other sports.——Dr. David S. Linvill, Columbia City, addressed the Whitley County Medical Society, July 12, on "Contagious Diseases," and Dr. Ernest V. Nolt on "Pains in the Chest and Abdomen."——Dr. Robert M. Moore, Indianapolis, addressed the Carroll County Medical Society, Delphi, July 13, on "Drug Therapy in the Treatment of Heart Disease."——The Ravdin medal, awarded annually, will be given this year to Perry Wilson Bailey of the senior class of the Indiana University School of Medicine for having made the highest average in the four years' medical course.

KENTUCKY

Personal.—Dr. Flora W. Mastin, Frankfort, has been appointed assistant physician at the Eastern State Hospital, Lexington, effective, July 1, succeeding Dr. Minnie C. Dunlap, who held the position for many years and who has resigned on account of ill health.——Dr. Griffin C. Kelly has been appointed city health officer of Louisville; Dr. Heman Humphrey, assistant city health officer, and Drs. William C. Poulson and Joseph H. Green, city physicians for the eastern and western districts, respectively.

Society News.—At a meeting of the Adair, Green and Taylor county medical societies, June 9, Dr. William Edgar Fallis, Louisville, read a paper on "Diagnosis of Acute Abdominal Maladies"; Dr. Robert Julian Estill, Lexington, on "Infant Feeding in Hot Weather," and Dr. R. Hayes Davis, Louisville, on "Chronic Myocarditis."——Dr. William E. Gardner, councilor of the district, attended a meeting of the Owen County Medical Society, May 26, accompanied by Dr. Stephen C. McCoy, who gave an illustrated address on "Diseases of the Kidney and Bladder"; Dr. Edward Speidel, Louisville, spoke on "Obstetric Emergencies," and Dr. Virgil E. Simpson on "Diabetes Mellitus."——The Perry County Medical Society, Hazard, held its semiannual ladies' night meeting, July 11; following a banquet served by the ladies, Dr. William E. Ray, president of the society, spoke on "The Doctor's Wife," and Mrs. Robert L. Collins and Mrs. Amerdia M. Gross read an instructive and entertaining paper on a similar subject.

MARYLAND

Society News.—Members of the Mental Hygiene Society of Maryland, representatives of charitable and social agencies in Baltimore City, and superintendents of various state hospitals met at the Hotel Emerson, Baltimore, June 30, to discuss the new mental hygiene clinic to be established this fall in the University of Maryland School of Medicine. Dr. Ross M. Chapman, professor of psychiatry at the university, presided.

Typhoid Epidemic.—Four cases of typhoid have developed in two families at Lonaconing, Allegheny County, and the city health officer of Cumberland and county nurses have been conducting inoculation clinics at the Lonaconing health center to prevent the spread of the disease. The source of the infection has been traced to a polluted spring on Big Vein Hill, and the Lonaconing city council has been urged to make immediate arrangements for establishing a sewer system for that section.

Personal.—Dr. Frank W. Keating, superintendent, Rosewood State Training School, was elected president of the University of Maryland Alumni Association, in June, and Dr. Charles H. Bubert, secretary.——The honorary degree of doctor of science was conferred on Dr. John J. Abel, professor of pharmacology, Johns Hopkins University School of Medicine, by Yale University, June 22.——Dr. Dean Lewis, professor of surgery, Johns Hopkins University School of Medicine, Baltimore, received the honorary degree of doctor of science from the University of Wisconsin at the recent commencement.——Knight Dunlap, Ph.D., professor of experimental psychology, Johns Hopkins University, Baltimore, who has been appointed chairman of the division of anthropology and psychology of the National Research Council, has been granted a year's leave of absence by the university, and will take up his work in Washington, D. C., about September 1.

MASSACHUSETTS

Hospital News.—The Amesbury Community Hospital was dedicated with appropriate ceremonies, May 13. It is a thirty bed, modern hospital; in 1925 a drive for funds was made in the surrounding communities which totaled more than $125,000 for the hospital.

Personal.—Dr. Alice Hamilton, assistant professor of industrial medicine, Harvard University, Boston, received the honorary degree of doctor of science at the recent commencement of Smith College.——Dr. John M. Birnie, Springfield, has tendered his resignation to the governor as member of the board of registration in medicine on account of the duties imposed by his recent election to the presidency of the Massachusetts State Medical Society.——Dr. Harvey Cushing, professor of surgery, Medical School of Harvard University, Boston, received the honorary degree of master in surgery at the summer commencement of the University of Dublin, Ireland.

Professor Koffka Appointed to Chair of Research.—Prof Kurt Koffka of the University of Giessen Germany, has been appointed to the new Neilson chair of research at Smith College for a period of five years Professor Koffka is now visiting professor at the University of Wisconsin. He has taught at several universities, and is reported to be the author of books and articles translated into several languages He and Professors Kohler and Wertheimer of the University of Berlin are said to be responsible for the experiments that lead to the development of the Gastalt theory in psychology In his work at Smith Professor Koffka will be free to study and experiment as he desires publishing the results or not as he prefers but he is not expected to teach The Neilson chair of research has been established by friends of Dr Neilson in honor of his tenth year as president of Smith College

University News—At the recent commencement of Harvard University it was announced that during the year 1926-1927 the university had received gifts of $6 003 372, in addition to the subscriptions to the endowment campaigns and to the alumni endowment fund and the income received under the will of Gordon McKay Those pertaining to medical science included $100 000 from the estate of Richard Dana Bell for biologic chemistry $188 400 from the General Education Board for the department of ophthalmology, for medical and surgical science $237 081 from the estate of Arthur S Luke for the school of public health, $137 250 from the Rockefeller Foundation $100 000 from Dr Frederick C Shattuck Boston to establish the Richard P Strong Fund in tropical medicine and $470 000 from Harold S Vanderbilt for the medical school dormitory and the salary for an instructor in physical training in the medical school

MINNESOTA

Society News—A gold watch with an appropriate inscription was presented to Dr Herman M Johnson, Dawson, at the recent banquet of the Minnesota State Medical Association Dr Johnson is a former president of the state medical society ——The West Central Minnesota Medical Society will hold its next meeting October 12 at Morris The society held an outing June 19 at Ortonville, as the guest of Drs Bolsta Karn O'Donnell and Shelver

Medical Committee Surveys Hospital—Following the endorsement of the Hennepin County Medical Society at the last annual meeting its president appointed a committee of seven members to survey the general hospital at Minneapolis The committee on health and hospitals had previously held a special meeting to discuss a proposed increase in the capacity of the hospital the appointment of the survey committee arose out of this discussion The committee was requested by the council committee of seventeen to broaden the scope of the survey so as to furnish a report which would indicate the further needs of the hospital Before proceeding the subject of the survey was formally placed before the board of public welfare which authorized the survey with the understanding that a report should be submitted to the board before being published or given to any other organization There is no question it is said, of the popularity of the general hospital but before increasing the bed capacity, it was considered best to analyze the hospital situation and to determine its normal function Among the conclusions reached by the committee were the following

> That the general hospital has assumed a function and a dignity in the community which is not consistent with its normal character, which was never contemplated by its creators and which is not in accordance with the intent of the laws governing its existence and which has imposed an unnecessary burden on the tax paying part of the community
>
> That under the present standard for indigency as used for admission to the hospital and dispensary, an unreasonably large part of the population would be eligible to free care
>
> That the present methods of investigation of persons is inadequate and inaccurate and encourages the use of these facilities by many persons who are not entitled to public relief
>
> That an appreciable number of people are now admitted who do not necessarily require hospital care
>
> That the present system of computing the obligations of the part pay patient is unsound and based entirely on inadequate information
>
> That the present congestion in the hospital is due to some extent to the presence of patients not entitled to service in a charity institution
>
> That it is impossible to estimate or predict either the present or future needs of the general hospital until a thorough system of investigation of applicants and a better scheme of indigency has been established and in operation for at least two years

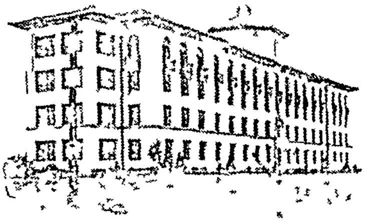
Among the recommendations were the following

> That the board of public welfare be requested to establish an 'admitting and collection department' for the general hospital and auxiliary institutions this department to be in charge of a trained financial investigator and credit man who will have complete control of the eligibility of all persons making application for hospitalization or treatment at public expense and be responsible only to the board of public welfare
>
> That an advisory committee be created, composed of one member of the board of public welfare one member of the Hennepin County Medical Society, and one member from the Minneapolis Tax Payers' Association, this committee to meet twice a month with the admitting officer for the study of questionable and borderline cases with a view to developing satisfactory rules for his guidance

MISSISSIPPI

Personal—Dr Henry Boswell, Jr, Sanatorium, has been elected president of the American Sanatorium Association, and also reelected on the executive board of the National Tuberculosis Association ——Dr William W Reynolds, Meridian, has been reappointed health officer of Lauderdale County ——Drs Benjamin L Newell, Greenville, and W F Hand, Lumberton, have been appointed resident physicians at the Mississippi Charity Hospital ——Dr James B Black, Jr has resigned as director of the Hinds County Health Department to accept a position with the American Child Health Association for work in Tennessee, Dr Calvin C Applewhite will serve as health officer until a successor to Dr Black has been selected

Society News—Among others, Dr Leslie V Rush addressed the East Mississippi Medical Society, Newton, June 16, on 'Functions of the Gallbladder," and Dr Samuel H Hairston on 'Cases That Need Early Diagnosis" The next meeting will be at Meridian, August 18 ——Dr Leon S Lippincott addressed the Issaquena-Sharkey-Warren County Medical Society, Vicksburg, July 12, on "Prognosis in Kidney Disease', Dr Ewing F Howard, "Medical Ethics," and Dr Isaac C Knox 'Intestinal Infections in Children" ——The Tri-County Medical Society met, June 14, at Tylertown, devoting its program to infant feeding and infectious diarrhea in children Papers were presented by Drs Robert E Sylverstein, De Witt T Brock and Jesse E Brumfield The next meeting will be in Brookhaven, September 13 ——The Homochitto Valley Medical Society met, July 14, at Natchez, Dr Jacob S Ullman presented a paper on "Treatment of Quinine Idiosyncrasy," and Dr Richard D Sessions, on "Postoperative Ileus" Dr William R Brumfield and William J Grady presented a case of unusual temperature disturbance.



Hospital Surrounded by Water—During the recent Mississippi flood, the Kings Daughters' Hospital, Greenville, was surrounded by water for about four weeks Although there was 4 feet of water in the lobby, and the boiler rooms were flooded thus cutting off the steam used for heating, cooking and sterilization, the building was damaged very little, and with the aid of the Red Cross the hospital still functioned in each department with a full quota of nurses and other employees working to help victims of the flood Twenty-five babies were born in the hospital after the levee broke The building represented here was opened in February of this year The condition brought about by the flood makes it impossible for the hospital to meet its financial obligations without assistance, although up to the time of its disaster, it was self sustaining, with an average of seventy-five patients, 10 per cent of whom were charity patients Funds to the amount of $10,000 are being sought to help the hospital through this trying period, and to meet the demands that may come as a result of the flood

MONTANA

State Medical Election—At the annual meeting of the Medical Association of Montana, Missoula, July 13-14, Dr George M Jennings, Missoula, was installed as president, Dr Alfred Karsted, Butte, was elected president-elect, Dr William F Hamilton, Havre, vice president, and Dr Elmer G Balsam, Billings, reelected secretary-treasurer The next meeting, which will be the fiftieth anniversary, will be held at Great Falls in 1928

NEW MEXICO

Outbreak of Infantile Paralysis—Between the last week of June and July 19, thirty-four cases of infantile paralysis were reported to the state department of health with five deaths, twelve of the cases were from Chaves County, eleven from Eddy County, six from Union County, and one each from Bernalillo, Dona Ana, Grant, Harding and Otero counties

NEW YORK CITY

Hospital News —The Montefiore Hospital has announced that a hospital and administration building, a laboratory, a home for physicians and nurses, and other additions will be made to the Bedford Hills branch of the hospital

Cuban Commission on Tour.—A commission from the medical faculty of the University of Havana, Cuba, is touring the United States visiting medical institutions under the auspices of the Rockefeller Foundation The party includes Dr F Solano Ramos, dean of the school and chairman of the commission, Dr Carlos Finlay, professor of ophthalmology, Dr Aristides Agramonte, and Felix Martin, of the School of Engineers and Architects, who is in charge of planning the new medical building for the Cuban university

Exhibition of Work For and By the Blind —The New York State Commission for the Blind with the assistance of twenty organizations concerned with the care of the blind has assembled an educational exhibition of work for and by the blind residents of the state at the Art Center, 65 East Fifty-Sixth Street The exhibition covers almost the entire ground floor of the Art Center, and it shows the handicaps under which the blind labor and the extent to which they have succeeded in overcoming them The exhibit provided by the National Committee for the Prevention of Blindness shows how these handicaps may be avoided There are exhibits in braille of music, books and magazines, a chart showing that the American Foundation for the Blind has distributed 2,500 radio sets to the needy blind throughout the country, a graphic chart showing that industrial accidents caused the loss of sight of one out of seven blind persons, and that venereal diseases blind or visually handicap thousands of persons There is an exhibit of the handwork of blind persons who help to support themselves by making toys, doll wigs, mops, and brooms, or by sewing and other forms of needle work The exhibit will be open until August 1 and admission will be free

OKLAHOMA

Personal.—Dr Walter G Nash, Sparks, has assumed the duties of health officer of Lincoln County ——Dr George E Hartshorne, Tulsa, county superintendent of health, has been reappointed for a term of four years

Warning—"Dr. Robert Trosky."—A physician from Tulsa writes that 'Dr Robert Trosky" applied to him recently for a position as assistant He claimed to be a graduate of the University of Petrograd, and to have done hospital work in Minneapolis and Albany He mysteriously disappeared a few days ago, leaving numerous bad checks in the hands of business men There is no record of a "Dr Robert Trosky" in the files of the American Medical Association

PENNSYLVANIA

Society News. — Dr James M Anders, Philadelphia, addressed the Newcastle County Medical Society, May 19 on "Early Diagnosis of Cancer of the Stomach"——Dr. Oliver H Jackson, Meadville, was elected president of the Northwestern Medical Society at its annual meeting at Erie, July 3

Personal — Robert T Hance, Ph D, of the Rockefeller Institute for Medical Research, New York, has been appointed professor of zoology and acting head of the department at the University of Pittsburgh ——Dr Emlyn Jones, Johnstown, has been appointed in charge of the bureau of vital statistics of the state department of health ——Dr John Ronald MacRae, Jr., has accepted the position of resident surgeon at the Moses Taylor Hospital, Scranton, Pa

Philadelphia

Hospital News —Four bandits held up the paymaster of the department of health, June 1, at the entrance to the Philadelphia Hospital for Contagious Diseases, and escaped with two hospital payrolls totaling about $13,000 ——Dr Joseph Edeiken has been reappointed chief resident physician of Mount Sinai Hospital for the ensuing year, and Dr Charles Charny has been appointed assistant chief resident, .a new position Each year the intern considered most able is appointed chief resident, and in the following year is promoted to the rank of chief resident physician; on completion of this term, a fellowship for a year of special study in Europe will be provided by the board of trustees —— St Joseph's Hospital opened a new maternity hospital with accommodations for forty patients, July 19 ——The fourth floor of the new Samaritan Hospital will be known as the Roosevelt Memorial Floor, and the cost will be defrayed from funds donated to Temple University by the trustees of the abandoned Roosevelt Hospital ——The Children's Heart Hospital has purchased a tract of about 11½ acres north of Conshohocken Avenue and northwest of Windemere Avenue in the twenty-fourth ward, where, it is reported a new structure costing more than $600,000 will be erected eventually The hospital is now located at Fifty-Second Street and Wynnefield Avenue

UTAH

Health at Salt Lake City.—Telegraphic reports to the U S Department of Commerce from sixty-six cities with a total population of about 29 million, for the week ending July 16, indicate that the lowest mortality rate (6 1) was for Salt Lake City, and that the mortality rate for the group of cities as a whole was 11 3 The mortality rate for Salt Lake City for the corresponding week last year was 11, and for the group of cities, 10 8

WASHINGTON

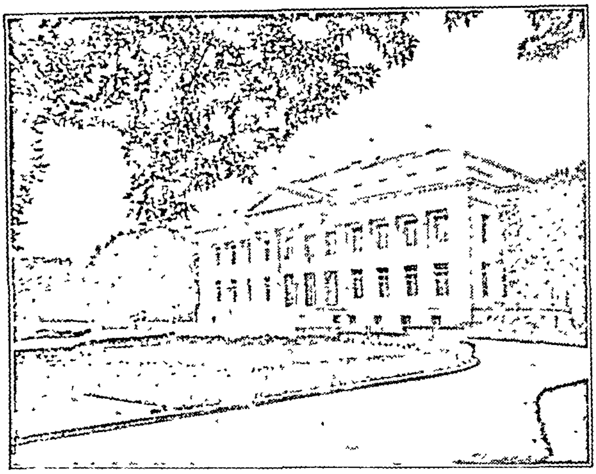
State Medical Meeting —The thirty eighth annual meeting of the Washington State Medical Association will be held at Tacoma, August 29 31 with headquarters at the Winthrop Hotel, under the presidency of Dr Harry G Willard Monday, at 8 o'clock, a golf tournament will be played at the Tacoma Country Club and at 5 o clock Dr Dean Lewis Johns Hopkins University School of Medicine Baltimore will give a surgical clinic at the Tacoma General Hospital Dr Gladys R H Dick Chicago will demonstrate the technic of the Dick test and Dr William P Lucas San Francisco will give a diagnostic pediatric clinic at the Tacoma General Hospital, at 7 30 there will be a dinner dance at the Country Club, Dr Lucas will speak Tuesday on Asthma in Children" and Dr George F Dick, Chicago, on Present Status of Scarlet Fever Control" The North Pacific Pediatric Society Section will meet, Tuesday afternoon when Dr Lucas will speak on 'Care of the Normal Infant and among others Dr Harry C Olmsted Seattle, will read a paper on 'Traumatic Lesions of the Diaphragm in Infancy and Childhood The annual banquet will be Tuesday evening There will b operative clinics at the local hospitals, Wedn day morning and also papers by Drs Arthur C Crookall Seattle, Charles R Castlen, Seattle, and Albert B Murphy, Everett, in the afternoon, Dr Dean Lewis will read a surgical paper, and among others, Dr Richard Hayes, Longview, will speak on "Intermittent Duodenal Stenosis" The proximity of Tacoma to Rainier National Park, to the ocean and to Puget Sound will afford physicians attending the state meeting an opportunity for a delightful vacation

GENERAL

Application for Fellowships in Medicine — In order to receive consideration at the next meeting of the Medical Fellowship Board to be held in September applications for fellowships in medicine of the National Research Council should be filed by August 1 Applications should be addressed to the secretary of the Medical Fellowship Board, National Research Council, Washington, D C

Air Medical Examination Service About Complete —Following a visit to cities in various sections of the country, Dr Louis H. Bauer, medical director for aeronautics, U S Department of Commerce, stated, July 19, that the organization of the medical service of the aeronautics branch was nearing completion There are 170 physicians who have been designated as examiners for airplane pilots, and thus officially authorized to perform the special examination Dr Bauer was formerly commandant of the army school of aviation medicine at Mitchel Field, New York He resigned his commission in the army to become medical director of aeronautics for the U S Department of Commerce

Red Cross Ends Flood Emergency Work —The administrative headquarters of the Red Cross for the Mississippi Valley flood operations was moved, July 12 from New Orleans to the National Headquarters of the American Red Cross in Washington, D C, a photograph of which is shown here This marked the passing of the emergency flood period, and the closing of the Red Cross refugee camps which have cared for hundreds of thousands of refugees in the last few weeks As refugees returned to their homes, the Red Cross assisted them to settle again on their farms, supplying each family with two weeks rations, and feed for stock to tide them over the adjustment period, and providing necessary household equipment and elementary instruction in health, simple furniture and additional live stock and poultry Through the Agricultural Finance Corporation to which Herbert Hoover has given his attention, a form of credit will also be provided. This is supplementary to the Red Cross rehabilitation. The confidence of the nation in the ability of the Red Cross to carry on in this emergency was shown in part in subscriptions totaling $16,158,107.20. Nearly 600,000 refugees were affected in this emergency relief work, in which the Red Cross cooperated with various other agencies. As the emergency period closed, a thirty day follow-up health program was instituted in each county of the flooded area embracing immunization, purification of water supplies, disposal of sewage, disposal of carcasses of animals, spraying of oil, and screening against mosquitoes. The force organized to carry on this work amounted to 267 physicians, health officers, nurses and sanitarians, many of whom are from the local communities and others from the U S. Public Health Service The supplies required for the thirty day program included, among others, 2,480 barrels of spraying oil; 318,180 cans of chlorinated lime; 1,440 barrels of hydrated lime; almost 20 million grams of quinine; 210,750 yards of mosquito netting, 7 tons of dynamite, for use in the burial of animals, and about 100,000 mosquito bars which were furnished by the communities themselves in addition to door and window screening. The expenditure of $310,000 was justified in this health program as no serious outbreak of disease occurred in any part of the flooded areas. The incidence of sickness among refugees was actually less than normal in the same areas. The short health program was instituted by the American Red Cross, but carried on with the cooperation of the health departments of the states, the U. S. Public Health Service, the American Medical Association, state and local medical societies and the health departments of fourteen states outside the flooded area.



National Headquarters of the American Red Cross.

LATIN AMERICA

Special Hospital for School of Tropical Medicine. — The construction of a special hospital for the School of Tropical Medicine of the University of Porto Rico, under the auspices of Columbia University, New York, was begun, June 1, on the site adjoining that of the laboratory building. It will contain forty-five beds and an outpatient department, and when equipped will cost about $130,000. At the commencement exercises of the University of Porto Rico, June 8, Dr. Juan Iturbe, Caracas, Venezuela, received the honorary degree of doctor of science.

FOREIGN

Personal. — Sir Humphry D. Rolleston, Regius Professor of Physic, Cambridge University, received the honorary degree of doctor in medicine at the summer commencement of the University of Dublin, Ireland. —— Dr. Aihiko Sata, formerly president of the Osaka Medical College in Japan, left in May for a lecture tour through Germany as exchange professor at the University of Berlin; his lectures will be on immunization of tuberculosis. —— Dr. Masujiro Nishibe, of the laboratory for infectious diseases of the Japan government, and Dr. Shoji Nishio of the Keio University Medical School, Japan, have received fellowships under the Rockefeller Foundation for the year 1927, and will pursue their studies in the United States.

International Society for Microbiology.—At a meeting in Paris, France, in April, presided over by Professor Madsen, the International Society for Microbiology was founded, and at a meeting to be held before the next International Congress for Microbiology in Paris in October, 1928, its constitution and aims will be defined. The society is under the patronage and support of its honorary members, who are MM. Roux, R. Pfeiffer, Kitasato, W. H. Welch, Beyerinch, Wright, Yersin and Winogradsky. About thirty-one scientists from various countries present at the first meeting were designated as foundation members, and they will organize in their respective countries a national committee; each such committee will elect its president and these presidents will become vice presidents of the international society. All existing societies for microbiology may join as foundation members, so that those countries which are not yet represented may organize national committees. Professor Bordet, director of the Pasteur Institute, Bruxelles, was elected president of the society, and Prof. R. Kraus, director, des Serotherapeutischen Institutes Zimmermanngasse, 3, Vienna (IX), is the general secretary.

Deaths in Other Countries

Gustav Fritsch, professor of anatomy and physiology, University of Berlin, aged 89.——**Lew A. Tarrassewitsch,** epidemiologist of Leningrad, committed suicide in Dresden, aged 60. —— **Friedrich Luithlen,** dermatologist, Vienna, aged 58.

Government Services

U. S. Public Health Service

Surg John H Linson has been relieved from duty in Norfolk, Va, and assigned to U. S. Marine Hospital number 5, Chicago; Surg. Holcombe M. Robertson has been assigned to duty at Ellis Island, N. Y.; Assist. Surg. Gerald T. Sprague to marine hospital number 9, Fort Stanton, New Mexico; Acting Assist. Surg. Robert W. Flynn to marine hospital number 5, Chicago; Acting Assist. Surg. Charles P. Waite, Jr., to duty with the U. S. Bureau of Mines, Washington, D. C.; Surg. Gleason C. Lake, relieved from duty at Washington, D. C., and assigned to duty at U. S. Marine Hospital number 21, Stapleton, N. Y.; Assist. Surg. Kirby K. Bryant, relieved from duty at Stapleton, N. Y., and assigned to duty at Ellis Island, N. Y.

FOREIGN DUTY

Surg. Randolph M. Grimm, U. S. Public Health Service, has been relieved from duty at Washington, D. C., and assigned to duty at Antwerp, Belgium; Assist. Surg. Alfred J. Aselmeyer has been relieved from duty at Washington and assigned to duty at Naples, Italy; Assist. Surg. Raymond A. Vonderlehr has been relieved from duty at Washington and assigned to duty at Cobh, Irish Free State; Surg. William C. Billings has been relieved from duty at New York and assigned to duty at Liverpool, England; Surg. John S. Boggess has been relieved from duty at Detroit, Mich., and assigned to duty, London, England; Surg. Mark V. Ziegler has been relieved from duty at Cobh and assigned to duty at Prague, Czechoslovakia; Passed Assist. Surg. William Y. Hollingsworth has been relieved from duty at Antwerp and assigned to duty at Palermo, Italy; Sr. Surgeon Taliaferro Clark has been directed to proceed from Paris, France, to Berlin, Germany, August 1, and return as chairman of a board; Surg. Leon O. Weldon has been relieved from duty at Liverpool, England, and assigned to duty at Genoa, Italy, and Surg. Dana E. Robinson has been relieved from duty at London, England, and assigned to duty at Naples, Italy.

Veterans' Bureau School of Neuropsychiatry

The postgraduate school in neuropsychiatry, conducted since about March 11 at the U. S. Veterans' Bureau Hospital in New York, is reported to have been a success. About thirty physicians from Veterans' Bureau hospitals throughout the country were in attendance, and the instructors were prominent specialists from Boston and New York. The course was practical and strenuous, including demonstrations, laboratory work and lectures, some of which were given at the New York Psychiatric Institute, Wards Island; some at the medical department of Columbia University College of Physicians and Surgeons, and some at the neurologic institute.

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 9, 1927.

The Treatment of Cancer

At the annual meeting of the Cancer Hospital, Mr. W. Ernest Miles, whose operation for rectal cancer is well known, said that all methods of treatment up to the present could not compare with surgery. The cause of cancer still remained obscure. They had recently been trying the Blair Bell method of lead treatment. So far he had not seen anything that would lead him to think that this treatment would supersede others. Radium treatment on the continent was reported to be securing better results than in this country because larger quantities were used. To carry out similar methods at the Cancer Hospital would require 5 Gm. of radium, at a cost of $275,000.

The Dogs' Protection Bill

The struggle with the antivivisectionists and the antivaccinationists is unending, as they are impervious to scientific evidence. A "dogs' protection bill" is once more before parliament, and once again the British Medical Association and other medical bodies have to take up the defensive. The medical research council (a body appointed by the government), which contains such eminent men as Lord Balfour, Sir Archibald Garrod, Sir Gowland Hopkins, Sir Charles Sherrington and Dr. C. J. Martin, has issued a memorandum declaring unanimously that the bill would place an insuperable barrier across some of the chief paths in medical research for the maintenance of health and diminution of disease and pain. The memorandum, being an official document, has been "presented by the lord president of the council to parliament by command of his majesty." It is important as the most authoritative and up-to-date statement of the reasons for the use of dogs for purposes of research. It points out that the present-day science and art of the physician and surgeon have been founded in large part on the experimental use of dogs. The chief foundations of our knowledge of the processes of digestion, the circulation of the lymph, the work of the heart, and the circulation of the blood have thus been laid. A large part is based on trials made in the feeding of dogs. The work of the surgeon, whether on the brain, the spinal cord, the intestine, or the chest, has been made possible by experiments on dogs. Methods of life saving, as by the transfusion of blood or in the resuscitation of the apparently drowned, have been worked out chiefly on dogs. Important parts of our knowledge of anesthetics and their safe administration, and of the actions of many kinds of drugs, have been gained. There is no physician who does not use in his daily work information which he owes to experiments on dogs. If he is to understand the meaning of such common symptoms as palpitation, breathlessness, giddiness, fainting, and many other forms of distress, if he feels a pulse or listens to the chest, if he transfuses his patient with blood or employs rectal feeding, he is making wholesale use of knowledge derived from experiments on unconscious dogs. Many reasons have made it necessary to use dogs instead of other animals. Considerations of the size are important, and the only animals giving a practicable alternative are the sheep, the pig, the goat or the ape. The dog, unlike these animals, can be kept completely healthy and comfortable in the laboratory and in near association with man. He is not afraid of close and friendly observation. His long domestication has assimilated his natural diet to that of man. Many of his bodily structures provide the nearest approximation among available animals to those of man. The study of diet and the collection and chemical study of the excreta can be carried out readily in the dog, and the results of these are in the main directly applicable to the case of the man or of the child. The actions of drugs and of anesthetics are in the main identical for the dog and the man. There is no ground whatever for the assertion commonly made, that the dog has some special sensitivity to discomfort or pain beyond that of other wild or domestic animals. Indeed, owing to the reasons given in favor of the use of dogs, and on the general humane grounds of avoiding discomfort to animals in captivity, or when receiving an anesthetic for painless experiment, or when under observation, the dog's special habituation to man makes it more desirable than a wild or less domesticated animal. The council then gives examples of recent important researches made by means of experiments on dogs—the discovery that rickets is due to deficiency of vitamin D and the unexpected one that malformations of the teeth are due to the same cause, the effects of alcohol, the study of diseases of the heart and circulation, the discovery of insulin. Finally, experiments have been beneficial to dogs themselves, such as by showing new methods by which they can be protected against distemper and cured of piroplasmosis by trypan blue.

Action Against a Surgeon for Accidentally Removing the Uvula

In Belfast an action was brought against a surgeon for negligence in removing tonsils and adenoids from a girl, aged 6. Damages of $7,500 were claimed. The defendant was a member of the surgical staff of the Ulster Hospital for Women and Children. It was stated that, as the result of the operation the child was unable to take solid food, could not drink in the ordinary way, and at times had a nasal intonation. The evidence showed that the adenoids and the left tonsil were cleanly removed, but the right tonsil was found to be adherent; in the attempt to remove the latter, the uvula was cut off. The surgeon stated that he had performed the operation of removing adenoids and tonsils some 12,000 times and that on this occasion he followed the same procedure and took the same precautions as on other occasions. The removal of the uvula was an accident which had occurred to him only twice in his career and might occur to the best surgeons. He stated that he had given his best skill and attention to the case. In cross-examination he said that he did not know until next morning that the uvula had been removed, and could even now do no more than conjecture the actual moment at which the accident occurred. Negative evidence as to the value of the uvula was given by other surgeons. The jury found that the defendant had exercised reasonable skill and care in the operation, and judgment was given in his favor.

The Color Line in South Africa

According to the Pretoria correspondent of the *British Medical Journal* there are in practice in the Union of South Africa six African Bantu natives, all fully qualified. Being on the registrar, they have the full rights and privileges of physicians. Some of them appear to have large practices among Europeans. In view of the pressing need for medical services in the native territories, this tendency of native physicians to adhere to the towns and practice chiefly among Europeans has caused adverse comment, as state money is spent in assisting native students to qualify in medicine in order to alleviate native suffering. Opposition to the practice of native physicians among Europeans has arisen. Since 1921 a negro physician, Dr. M. I. Molema, has been practicing in Mafeking, and has operated on European and native patients at the Victoria Hospital. From the beginning the nursing staff (composed entirely of Europeans) has resented being obliged to take orders from an African whose dealing with a white patient. About six months ago its members made a strong protest against Dr. Molema's operating on white patients while they had to assist at the operations and subsequently nurse the cases. As a result he ceased sending in European patients, but recently he again began sending such cases to the hospital. When the third patient, a girl, aged 19 years, arrived, the matron and nurses resigned in a body. The Mafeking Hospital Board, in telegraphing the decision of the staff to the administrator of the Cape Province, stated that it was in sympathy with the nurses. Though the staff has resigned, it is still carrying on the essential nursing services. After its resignation the hospital board again telegraphed to the administrator requesting that a section be added to the hospital ordinance giving hospital boards the right to draw up a list of physicians permitted to treat private patients in the hospital. Dr. Molema is the son of a chief of the Baralong tribe and came originally from Mafeking. He graduated M.B., Ch.B., at Glasgow University in 1919; he served during the war at Stobhill Military Hospital, Dublin, and subsequently at the Dublin Skin and Cancer Hospital. At Dublin he acquired a diploma in midwifery; he spent in all seven years overseas, returning to his native town of Mafeking in 1921. The correspondent states that the outcome of this local trouble is not clear, but it is significant of the growing opposition of the European community to the treatment of white patients, particularly females, by native physicians. It has been pointed out in previous letters that a color line can scarcely be said to exist in England. A number of colored students attend the London hospitals. But the British dominions and colonies, where there is a large colored population, evidently are less liberal.

The Exclusion of Married Women from Appointments

Many municipal bodies refuse to employ married women as physicians in their health services and discharge those who marry while in their employ. More than one motive probably influences them, but the principal one is that they think that a woman who has a husband should not keep a man out of a job. The Medical Women's Federation has just made a strong protest to the Durham County Council, which has recently passed a resolution prohibiting the employment of married women in the county service. The protest is as follows: "The Council of the federation has learned with the deepest regret that Durham Council has decided to debar from employment on its staff all married women, medical and otherwise, whose husbands are in receipt of an adequate income. The new regulation will keep out of sight all possible married candidates, including, it may be, women of exceptional ability and experience, or in regard to whom the handicap of marriage may be comparatively slight; i. e., married women without children, or whose children have reached an age to make little demand on the mother's time. The rule also ignores the fact that in medicine and other professions there are branches where the personal experience gained by marriage and motherhood adds to the value of the worker, as, for instance, in baby welfare work. If economic reasons of this kind are to be considered they ought to be made to apply to men also who possess, for instance, private means or a wealthy wife. This protest is sent because we feel strongly that prohibitive regulations of this kind are grossly unfair to women who have given years of work and devotion to their profession, and also to the public, who are often deprived thereby of the services of tried and skilled workers."

A Decrease of Population

The constantly falling birth rate in the last half century has been frequently described in these letters. It has resulted in a phenomenon only twice previously observed in this country. During the first quarter of the present year there was an absolute decrease of the population of this country. The decrease, it is true, was small, being less than 2,000 persons. The British birth rate has now fallen so low that the margin between births and deaths at any given period of the year is relatively small. An epidemic of influenza, as in the present case, is enough to obliterate this margin. The margin between births and deaths, moreover, is shrinking steadily, for the death rate can scarcely fall much further than it has fallen, whereas the fall of the birth rate continues and still shows a tendency to accelerate. The birth rate for the first quarter of the present year is the lowest ever recorded in any first quarter excepting that of 1919, the year following the complete "mobilization" of the nation for war service. Even three years ago the birth rates, though low, were always higher than the rates recorded in the period of the war. They have now fallen to the "normal" for the war period, and it seems that soon even the extraordinary figures of 1919 will show an excess over the ordinary figures of peace time. Commenting on this decline of population, the *Times* rightly says that it is impossible to disregard its significance, because its effects may well be experienced in the lifetime of the present generation, and goes on to point out the value of recent researches, such as the relation between food and light, which have given a new conception of diet and shown how by simple precautions diet may be made to contribute to resistance against disease and the losses of young life further reduced. This of course is quite true, but the implication that a decline of population can thus be checked misses the significance of the phenomenon surprisingly. The cause is of course economic, and therefore any further reduction of child mortality (which no doubt will occur) can only increase the economic pressure which resists increase of population. Our dense population is maintained by the export of manufactured goods. Their market has been restricted by the consequences of the war and by increased manufacturing abroad but, above all, by increased price largely brought about by state interference (ostensibly humanitarian) in industry and the short-sighted selfishness of trade unionism, which has been allowed too much license by our politicians.

Facilities for Canadian Candidates for the Fellowship of the Royal College of Surgeons

The Royal College of Surgeons and the Canadian Medical Council have under consideration proposals for lessening the cost of the present postgraduate course by Canadians in Great Britain. At present, graduates of Canadian medical colleges who seek to qualify for the fellowship of the Royal College of Surgeons must take both the primary examinations in physiology and anatomy and the finals in clinical subjects in England. It is hoped to arrange for the primary examination to be conducted by British examiners in Canada, leaving only the finals to be taken in England.

Dr. Freeland Barbour

Alexander Hugh Freeland Barbour, M.D., LL.D., F.R.C.P., the writer on gynecologic subjects, has died suddenly and unexpectedly. Born in 1856, he was educated at Edinburgh University. After graduation he studied at Berlin, Paris, Vienna and other centers. He devoted himself to gynecology and became assistant to his brother-in-law, the late Prof. A. R. Simpson, and subsequently gynecologist to the Royal Infirmary of Edinburgh. The "Manual of Gynaecology," written in collaboration with the late Dr. Berry Hart, was distinguished by the rigidly scientific manner in which gynecology was based on anatomic studies and at once became the leading textbook. It ran through many editions and was translated into French, Italian, Spanish and Chinese. Another classic produced by Barbour was his "Atlas of the Sectional Anatomy of Labour."

ITALY

(From Our Regular Correspondent)

May 15, 1927.

Changes in the Red Cross Society

By a recent royal decree, the central committee and the executive council of the Italian Red Cross Society have been abolished. In their stead a special commissioner (Dr. Pio Marta) has been appointed, who will perform the duties that attached to the aforementioned offices, and will also have the power to dismiss from service any member of the personnel of the society.

Scholarships for Women Physicians

The scholarships amounting to $264 in value, which, every year, the Ditta Medicinali Wassermann places at the disposal of the Associazione italiana fra le dottoresse in medicina e chirurgia, were awarded this year to *Dottoressa* Maria Rosso Lanzarini of Bologna, specialist in pediatrics, and *Dottoressa* Emilia Sorrentini of Rome, student of the clinical aspects of labor and social medicine. The committee on award was composed of *Professoressa* Borrino of Turin, *Professoressa* Carcupino of Salsomaggiore, and *Dottoressa* Di Vestea of Pisa.

The Crusade Against Malaria

The Consiglio della società italiana per gli studi sulla malaria, fearing that the people may lose confidence in the alkaloids of cinchona, emphasizes the fact that the alkaloids of cinchona are the only specific remedies thus far discovered for the treatment of malaria. It opposes useless or harmful proprietary preparations.

The government has established in Rome a graduate school of malariology, which will be open from June 15 to October 15. There will be a section in which medical graduates and senior medical students may be enrolled—foreigners as well as Italians—and an economic section intended for engineers and agriculturists.

Hypersusceptibility as a Clinical Problem

Prof. Cesare Frugoni, recently appointed director of clinical medicine at the University of Padua, advances the premise that anaphylaxis is a phenomenon of species; that is to say, it presents shocks that are characteristic for every animal species no matter what the inducing substance may be, and he contends, in agreement with Bastai, that only experiments on man can throw light on the natural human anaphylaxis. Theoretically, anaphylactic reactions may be divided into three types, designated by Duke as local, solitary and general. The general reactions may range from transient malaise to fatal shock. According to Frugoni, such shocks, which may result also from ordinary causes and minimal doses, constitute sometimes the unforeseen cause of death in persons apparently well. The speaker passed in review the principal forms of anaphylactic manifestations involving the skin, the mucous membranes, the abdomen and the joints, and illustrated those least known by drawing on his many personal cases. In closing, he traced a program of study and research for himself and his school.

Sanitary Statistics of the City of Naples

Professor Orsi and Dr. Botti, health officer and registrar, respectively, of Naples, have collected statistics pertaining to the health of their city, which are published in *Avvenire Sanitario.* The population, which in 1876 was 454,948, had increased in 1926 to 803,579, the augmentation being due almost entirely to the excess of births over deaths. The number of marriages contracted each year per thousand inhabitants had fallen from 8.05 during the decade from 1875 to 1884 to 3.78 during the war, but has now attained the average number of 7.5 per thousand, or the rate existing before the war. The births show a decrease. From 36.4 per thousand inhabitants in 1876, the birth rate, after many fluctuations, has dropped to 23.3 (1926). The mortality steadily decreased during the forty years from 1875 to 1914 (from 36.6 per thousand during the first decade of this period to 20.9 during the fourth decade). The mortality reached its highest point in 1918 as a result of the epidemic of influenza, but it began to decrease during the last months of 1919 and has continued to diminish since that time. In 1926 it was 14.6 per thousand. The marked improvement has been due to better hygienic conditions, especially with regard to housing, the crusade against tuberculosis, and the activities of the Opera Nazionale for the protection of mothers and infants. The infant mortality rate in 1875 was 185.2 per thousand births, and in 1926, 135 per thousand; it is evident, however, that in this field there remains much to be done. The curve for tuberculosis mortality is interesting. The mortality rate for pulmonary tuberculosis has dropped from a maximum of 1.86 per thousand population in 1901 to the low level of 0.83 in 1914, after various marked fluctuations and a decline to 0.70 per thousand in 1926.

The mortality rate for nonpulmonary types shows a maximum of 0.93 per thousand in 1901, and a decline to 0.40 per thousand in 1914. Since 1914 the fluctuations have not been marked; the rate for 1926 was 0.32. As the result of isolation of a larger number of patients, a still greater decrease in the mortality can be anticipated in the coming years. The mortality from infectious disease has been so far reduced that it is now around one tenth of the earlier rate. There is, however, an increase in the number of deaths from constitutional diseases, malignant tumors, violence, and senile marasmus.

PARIS

(From Our Regular Correspondent)

June 29, 1927.

The Vital Statistics of France

The statistical service of the ministry of public health and labor has compared the vital statistics for France for the first three months of 1927 with the corresponding period of 1926. The report records a marked decrease in the population:

	1927	1926
Births of living infants	189,575	195,467
Stillbirths	7,551	7,997
Deaths under 1 year	18,987	16,474
Deaths, 1 year and over	202,840	169,902
Total deaths	221,827	186,376
Excess of births over deaths	—32,252	+9,091

In the first quarter of 1927, an excess of deaths over births amounting to 32,252 was recorded, which signifies a corresponding decrease in the population. The number of deaths exceeded those for the previous year by 35,451 and there was a drop of 6,108 in the number of births. To find an adequate explanation for these facts is difficult because no disease has shown any very appreciable recrudescence. The number of marriages shows an increase, while the divorce column is not quite so long, though, to be sure, the effect of these facts on the number of births would not be felt until later. The decrease in the number of births is explained by many as the effect of the increasing burden of taxes occasioned by the war. The increase in the number of deaths is general and affects all the units supplying the statistics, although the public health services have never been better developed than they now are.

Increase in the Number of Paris Hospitals

Following a careful inspection of the hospital services of the Assistance publique, M. Fernand Moriette has concluded that Paris needs two hospitals of one thousand beds each, two hospital-sanatoriums likewise of one thousand beds for tuberculous adults, and two homes for aged men. To procure the necessary $10 000 000 it has been suggested that the municipality resort to a bond issue

The Nurses' Pavilion

A number of charity festivals have been held in Paris to obtain funds for the erection of the nurses' pavilion The pavilion will constitute a combined home and club for nurses who belong to one of the French Red Cross societies Board, lodging and technical instruction will be available at the pavilion The volunteer, hastily prepared Red Cross nurse rendered important service during the war, but it is necessary to have a nucleus of nurses who are constantly in training Therefore, during peace times the Red Cross maintains sanitary undertakings to serve as fields of practice work for its permanent personnel The Societe de secours aux blesses militaires directs and supports under the authority of the central office of the Red Cross an antituberculosis dispensary and school combined three sanatoriums equipped with 320 beds, a seaside preventorium with seventy beds, and a maternity hospital with a consultation center on infant care The regional committees of the Red Cross control, in all, 900 peace time societies for the activities of which they expend annually about $160 000 The Union des femmes de France has founded and maintains three infant welfare societies, two soup kitchens ’ and fifteen antituberculosis institutions The Association des dames françaises has established and manages six hospitals or preventoriums, sixty dispensaries 155 consultation centers on infant care six day nurseries, twenty-one centers for the free distribution of milk more than 200 workshops and eleven vacation colonies and open air schools The Association des infirmieres visiteuses de France advances the cause of social hygiene The mission of the visiting nurse is largely to disseminate health instruction to the public Wherever their influence has been brought to bear, the good effects have been readily perceived The Red Cross nurses and the visiting nurses need a place where they can rest, study and recuperate under comfortable and pleasing surroundings Such a place will be furnished by the Foyer du Square Necker, which will contain 172 rooms Eighty thousand dollars is still needed to finance the undertaking The pavilion will be in the name of the Association mutuelle des infirmieres, of which Mlle de Caters is the president

The Osiris Prize

The Osiris prize, which was established by a wealthy Jewish banker, is made up of two amounts of $4,000 each one of which is awarded in the field of belles-lettres and the other in the field of science It is bestowed every five years by a committee of award representing five academies This year the science prize was awarded to Dr Charles Nicolle, director of the Pasteur Institute in Tunis, for his researches on exanthematous typhus and recurrent fever and their mode of transmission by parasites, also for his researches on serotherapy in measles and scarlet fever, especially the injection of convalescents' serum

Dogs Trained in the Army Medical Service

One Sunday recently, in Paris, a number of dogs belonging to the army medical service, which had been trained to scour battle fields in search of wounded men, were led, in parade, by a battalion of the Societe des jeunes eclaireurs de France, from the Palais des Tuileries to the Arc de-Triomphe de l Etoile Each dog bore the national banner, on which appeared also his registration number on the records of the ministry of war; his body was encircled by a brassard of the Red Cross Society At the head of the dogs walked Lux, a veteran of the Morocco campaign of 1919-1921, during which he saved many wounded men who would otherwise doubtless have been abandoned to their fate, and was therefore the object of much public praise However, the organizers of the parade utilized it as a manifestation against vivisection Several of the dogs bore placards about their necks on which were such declarations as, "Suppress vivisection" Other placards were not objectionable, such as, "we demand dog hospitals for our aged and infirm comrades that have worn themselves out in service to man," "Kill dogs at birth rather than abandon them in their old age," "Kindness to animals is one of the first evidences of a superior nature in man" Women representatives of the propagandists accompanied the parade and stopped from time to time and delivered short speeches to the groups of onlookers on the subject of kindness to animals In conclusion, a lecture on the psychology of animals was given at the Jardin zoologique

An American Gift to the University of Paris

The rector of the Academie de Paris has been authorized by President Doumergue to accept the gift which has been made to the University of Paris by Dr Gage, an American citizen, acting in the name of the American Dormitory Committee at the Cite Universitaire, and which consists of a building to be erected on the parcel of land owned by the University of Paris, boulevard Jourdan The building, which is estimated to cost $200 000, will be used as a dormitory by students from the United States studying in Paris at any of the institutions of higher instruction The privilege may be accorded likewise, under certain conditions of reciprocity, to French students, as well as to professors and scholars of American nationality

Intestinal Occlusion Following Appendectomy

The Societe de chirurgie recently discussed intestinal occlusion following appendectomy M Voncken of Liege treats primary occlusions by laparotomy followed by Mikulicz drainage, and after exploration of the ileocecal region he breaks up secondary or tardy occlusions that are due to adhesions M Chifoliau believes that the usual causes of such occlusion are adhesions which cause intestinal kinks or mere cohesion of the intestinal loops but rarely a stenosis A spontaneous fistula often constitutes a relatively favorable solution Voncken, using local anesthesia, intentionally produced a fistula in seven cases (four times on the cecum and three times on the small intestine) with successful results in six cases M Cuneo made a distinction between late occlusions, which should be treated by the destruction of adhesions and the liberation of the intestine, and occlusions that develop immediately following an operation, in which the operator must be content with an emergency intervention that has a minimum of risk, namely, fistulization

Antidiphtheritic Serotherapy in Bronchopneumonia in Children

Having observed that bronchopneumonia is often aggravated by the presence of the diphtheria bacillus, which makes its appearance after the onset of the disease, M Duchon gives every bronchopneumonia patient, as soon as he is admitted to the hospital, and before the bacteriologic examination of the nasal mucus is made, an injection of from 200 to 250 cc of antidiphtheritic serum This makes the terrain, in advance, resistant to the diphtheria toxin in case the diphtheria bacillus appears later He employs, furthermore, the same prophylaxis in all grave measles cases M Apert stated that the mortality is 66 per cent when the injection of serum is not made until after the establishment of the presence of the diphtheria bacillus and that the mortality drops to 27 per cent when prophylactic injections of serum are given before the bacteriologic examination Guillemot and Grenet, in communicating to the Societe medicale des hopitaux their statistics for Bretonneau Hospital for the first six months of the year, during which the Duchon method has been systematically employed in all cases of bronchopneumonia, report, in sixty-eight cases, twenty-nine deaths, eighteen of which occurred during the first forty-eight hours. There remain, still, fifty patients who were regularly treated, with eleven deaths, or a mortality of less than 25 per cent. In children up to 2 years of age there were twenty-seven cases with eight deaths, or a mortality less than 33 per cent, and in children over 2 years of age there were twenty-three cases with three deaths.

GENEVA

(From Our Regular Correspondent)

June 6, 1927.

Treatment of Syphilis

In a recent lecture delivered to the Medical Society of Geneva on the "Present Treatment of Syphilis," Prof. Charles Du Bois said that syphilis can be cured, the proof of which is that today cases of reinfection are not infrequent. On the other hand, a cure is difficult to obtain. Certain medicaments are so effective that they deceive the patient as well as the physician by too rapid disappearance of all evidences of the morbid process and in this fact lies the danger. Biologic reactions are of great value if properly interpreted, but only too frequently they are misinterpreted. Every case of syphilis must be regarded as a severe case and treated as such. Experimental work is of great value, but the fact must not be lost sight of that animals present a virgin soil while man has ancestral immunity. Hence the first principle in treatment is to give sufficient doses of the drug selected whether or not clinical and laboratory evidences disappear. Fournier's treatment lasted four years, given at stated intervals, and his results were unquestionably good, but unfortunately 75 per cent of the patients carried it out for not more than two years, some for even less.

Asystolia

In a recent lecture on the therapeutics of asystolia, delivered to the Geneva Medical Society, Prof. Maurice Roch stated that, generally speaking, the treatment of the asystolia is more important than that of the lesion giving rise to it. A distinction is to be made between asystolia of the auricles and the right and left ventricle. Auricular asystolia presents complete arrhythmia, fibrillation and flutter. Quinine and especially quinidine improve the rhythm but have less influence on the patient's general condition. The latter drug is a depressor of the cardiac tone.

Asystolia of the left ventricle is made evident by pain, cardiac distress and edema. It is ameliorated by bloodletting.

Asystolia of the right ventricle gives rise to edema, cyanosis, dyspnea and oliguria. In point of fact, said the lecturer, vicious circles become established in the heart, nervous system, lungs, liver and kidneys, and they must be broken at any cost. Rest is essential but often difficult to enforce. Morphine is very useful. These patients micturate more during the night than during the day, and sleep facilitates that renal function. Combinations of morphine with barbital, which is a diuretic, or codeine are often excellent. Cupping, leeches, puncture and diuretics should precede the exhibition of cardiac stimulants, which, occasionally, will not afterward be found necessary.

Digitalis is the prince of cardiac tonics but must be exhibited in sufficient doses. The lecturer then remarked that the myocardium possesses five properties: (1) excitation (2) excitability (reception of excitation); (3) conductivity (transmission of excitation); (4) contractibility (response to excitation), and (5) tone. Digitalis increases 1, 2, 4 and 5, while it decreases 3. It slows the pulse. The increase of excitability is delicate and is governed by contraindications, so that much prudence is required when there is a pulsus bigeminus. These various diagnostic elements have been brought to light by the electrocardiograph.

Among the substitutes for digitalis, ouabain is one of the most interesting.

Pharmacist Sentenced

The police court of the city of Berne has sentenced a pharmacist to pay 25 francs ($5) for illegal practice of medicine. He not only examined the urine of his clients but also made clinical examinations, passing himself off as "doctor." Two unfortunate clinical results at length brought this pseudocolleague to the courts. The first case was that of a girl, aged 15, who was suffering from some lesion of the knee joint. The "doctor" made a diagnosis of "softening of the bones" and thereupon prescribed an infusion, a solution for baths, some oatmeal for making soup, and camphorated oil for friction rubs. The consultation and remedies cost 18 francs ($4.60). But, since improvement was not forthcoming, the patient's mother sought out the city school physician, who found advanced tuberculosis of the knee joint. The second case was that of a man suffering from asthma and edema, from whom the pharmacist prescribed a powder and a lotion for frictions. Admitted to a hospital a few days later, this patient died.

BUENOS AIRES

(From Our Regular Correspondent)

May 31, 1927.

Infant Welfare Meeting

At the sixth meeting of the assembly of the League of Nations, the public health section was charged with the duty of organizing meetings of infant welfare experts. The first of these meetings was held at Geneva, and the second will take place at Montevideo, June 6. This will be the first official act of the League of Nations in South America. The medical, public health and social aspects of the problem will be discussed and statistics submitted. Prevention of scarlet fever, measles, diphtheria, whooping cough and tuberculosis will be stressed. An attempt will be made to standardize infant morbidity and mortality records. The health section of the League of Nations will be represented by Drs. Madsen (Denmark); Rajchman (Poland); Saiki (Japan), and Aráoz Alfaro (Argentina). In addition, Morquio (Uruguay) and Fernández Figueira (Rio de Janeiro) will help in arranging the program. Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay will be represented by official delegates.

Treatment of Tuberculosis of the Joints

The Argentine Surgical Society has begun a symposium on the methods and results of the Robertson Lavalle treatment of tuberculosis of the joints (THE JOURNAL, March 20, 1926, p. 916; May 15, 1926, p. 1587; Jan. 15, 1927, p. 185). The first statistics and reports, submitted by Zeno, Tamini and Zorraquin, contain some instances of aggravation and many failures. These reports and discussions will continue throughout the year.

Maternity Care

The Buenos Aires Public Assistance has organized a visiting midwife service for poor women wishing to remain at home during labor. This service assisted 15,800 patients at its stations and 5,130 at home during 1926. There are also quite a number of well equipped maternity hospitals, and the midwives are beginning to complain of too much competition.

Pan American Tuberculosis Congress

October 16, the Pan American Congress on Tuberculosis will begin its sessions at Córdoba. A number of American countries, such as Brazil and Uruguay, have appointed delegates Several European countries will also send specialists, including Sauerbruch of Germany, Saye of Spain, and Boquet and Negre of France

Tribute to Professor Cabred

While joining in the universal tributes to the prominent French psychiatrist, Pinel, the National Academy of Medicine decided to honor likewise an Argentinian Prof Domingo Cabred Dr Cabred was the founder of the chair of psychiatrics in the Bueonos Aires medical school His tireless efforts also succeeded in bringing about the construction of the present large hospitals for the insane such as Las Mercedes, Open Door and Oliva, as well as the establishment of many homes and hospitals in the various provinces The committee in charge of the arrangements for the celebrations includes Professors Llambias, Castex and Herrera Vegas of the National Academy of Medicine, and Professors Rojas, Valle and Houssay of the Buenos Aires Medical School.

Foreign Visitors

Professor Ombredanne of Paris is on his way to this country to give an exchange course——The Cordoba medical school has appointed Prof Jimenez de Azua (Zaragoza) director of a newly created hematologic institute——Prof A Herlitzka (Turin) has also announced his arrival in the near future

BERLIN

(From Our Regular Correspondent)

June 25, 1927.

The Increase of Crime Due to Greater Consumption of Alcoholic Beverages

According to recent reports of the Federal Bureau of Statistics the number of convictions for serious cases of assault and battery have increased of late by one eighth, and fines for minor injuries coming under the same head have been augmented by one fifth According to statements of the same federal bureau, the condition is evidently due, in part, to the increased consumption of alcohol, since the beer consumption of 1925, in contrast with 1924, was increased from 34,650 000 hectoliters to 46,220,000 hectoliters, or from 56 1 liters to 73 9 liters per unit of population, while the use of brandy increased from 433,500 hectoliters to 557,000 hectoliters, or from 0 7 liter to 0 9 liter per unit of population In Bavaria, the number of persons sentenced for crimes and misdemeanors committed in contravention of federal laws, while intoxicated, was increased in 1925 by one third and in 1926 by three fifths over the record for 1924 Bodily injuries occupy first place and insult and resistance to an officer, second place

Chronic Mercurial Poisoning and the Menace of Amalgam

In an address before the Bonner Gesellschaft fur Natur- und Heilkunde, May 9, 1927, the pharmacologist Professor Fuhner discussed the articles by the chemist Alfred Stock, reported in a previous letter, on the danger of mercury vaporizations Stock has asserted that amalgam fillings of teeth may cause chronic mercurial poisoning The existing literature gives the impression that, with the elimination of a few hundredths of a milligram of mercury in the daily urine output no signs of chronic poisoning have been observed, but that, with the excretion of a few tenths of a milligram, such signs have appeared From silver amalgam fillings it would be rare for mercury in the aforementioned quantities to appear in the urine If such quantities are found, they are more likely due to metal that has become dissolved than to vaporizations from fillings in the mouth of the patient It is the task of the dentist so to instruct his patients in mouth hygiene and proper diet that resorption from amalgam fillings will be prevented The use of unstable copper amalgam should be abandoned The optimal mercury content of silver amalgam should not be exceeded Under proper conditions (no contact with gold or other metals, no exceedingly large amalgam surfaces) the use of silver amalgam fillings appears to be safe During the discussion that followed the address, Prof E Hoffmann stated that, in evidence of the toxic effect of mercury-containing fillings, he had failed to find, as local proof, chronic ulcerous gingivitis traceable to the filling He admitted having seen occasionally a local gingivitis associated with copper amalgam fillings, but said that the causal relation could not be established with certainty by demonstrating the presence of mercury in the tissues and was therefore not recognized or accepted in the dental clinic With reference to acquired hypersusceptibility, he called attention to the recent observations of Bloch, according to which, any person, if a large enough dose is administered, can be made hypersensitive to synthetically produced primrose poisoning, and referred also to the belief that pulmonary and pleural cancers, of which the incidence is greater in physicians than in other subjects, may possibly be caused by the inspiration of tar and similar irritating substances over a long period of years

Publicity Campaigns to Teach Hygiene

At a recent session, the federal committee for the instruction of the people in hygiene decided on methods of disseminating knowledge of hygiene in rural regions It will direct its first attention to the abatement of the fly nuisance in the plain country This will be a crusade against all types of vermin, since the problem is associated with the hygiene of stables, houses and foodstuffs It is hoped consequently that progress may be made against typhoid, tuberculosis and other epidemics For this purpose *kreiszentrale*, or township centers, are to be instituted, to be supervised by the township or communal physician, who will be supported by the trustees, physicians, teachers, pastors and the health insurance officials In this manner, it is thought that suitable material for instruction purposes will be procured and that interest among influential groups will be promoted In furtherance of the publicity campaign, leaflets, pamphlets, lectures with lantern slides, postcards and placards, but, more particularly, professional instruction in the schools, will be employed The teachers will be urged to assign to pupils hygienic subjects for theme writing, the pastors will be expected, at the conclusion of their sermons, to call attention to health movements, in the show-windows of appropriate shops the "weapons of war" to be used in the fly elimination campaign will be displayed, and the public press and the radio will also be brought into service The war on flies will be prosecuted chiefly from the middle of May to the end of June The expenses will be met (at least in part) by the sale of "fly campaign postcards" and by funds procured through sporting events

Marriages

Edward Nicholas De Witt, Bridgeport, Conn, to Miss Kathryn Lois Gipple of Alden, N Y, June 13

Clairmount Arthur Kressley, Sellersville, Pa, to Miss Harriet Louise Kipp of Allentown, June 23

William S Kiskadden, El Centro, Calif, to Miss Lael Irene Moore of San Diego, July 15

John A Powers, Warrensburg, Mo, to Miss Alice G. McIntyre of Windsor, June 25

Clayton C E Carson to Miss Blair Thompson, both of Gassaway, W Va, May 29

Deaths

Henry Mills Hurd ⊕ Baltimore; University of Michigan Medical School, Ann Arbor, 1866; emeritus professor of psychiatry, Johns Hopkins University School of Medicine; member of the American Psychiatric Association, the Association of American Physicians and the Maryland State Lunacy Commission; past president of the American Academy of Medicine, the American Hospital Association and past president and secretary of the American Medico-Psychological Association; superintendent of the Eastern Michigan Asylum, Pontiac, 1878-1889, and first superintendent of Johns Hopkins Hospital, 1889-1911, editor of the hospital bulletin and reports, 1890-1911, and since 1911 secretary of the board of trustees; editor of the *Modern Hospital*, 1913-1920; co-editor of "Hospital, Dispensaries and Nursing"; editor emeritus of the *American Journal of Insanity* and editor of the "Institutional Care of the Insane in the United States and Canada"; aged 84; died, July 19, at his summer home in Ventnor, N. J., of pneumonia.

Antonio Stella ⊕ New York; University of Naples, Italy, 1893; on the staffs of the Manhattan State, the Italian and Columbus hospitals; New York State examiner in lunacy; delegate of the Italian government to the Sixth International Tuberculosis Congress, Washington, D. C., 1909; delegate of the U. S. Government to the Seventh International Tuberculosis Congress, Rome, 1912; honorary commissioner of the U. S. Government to the International Expedition of Commerce and Labor, Turin, 1912; decorated Chevalier of the Crown of Italy in 1910; author of "Some Aspects of Italian Immigration to the United States"; aged 58; died, July 3, at the New York Post-Graduate Hospital, of septicemia, following an operation on an abscess.

John George Williams ⊕ Brooklyn; Yale University School of Medicine, New Haven, 1900; member of the American Roentgen Ray Society and the Radiological Society of North America; on the staffs of the Hospital of the Holy Family, St. Mary's, Brooklyn, St. Peter's and St. Charles hospitals; and formerly on the staffs of the Swedish, St. Catherine's and Methodist Episcopal hospitals; aged 54; died, July 2, of chronic endocarditis and mitral stenosis.

James Mortimer Keniston, Portland, Maine; Harvard University Medical School, 1871; member of the Connecticut State Medical Society and the New England Society of Psychiatry; superintendent of the Hartford (Conn.) Hospital, 1904-1906 and since 1906 on the staff of the Connecticut Hospital for the Insane, Middletown; author of "Paranoia" and "Kingdom of the Mind"; aged 78; died, July 13, of diabetes mellitus and chronic myocarditis.

William Hinton Wilder ⊕ Birmingham, Ala.; Medical Department of the University of the City of New York, 1891; past president of the Jefferson County Medical Society; formerly professor of materia medica and therapeutics, Birmingham Medical College; on the staff of St. Vincent's Hospital, where he died, June 30, of chronic myocarditis, aged 64.

Daniel William Finlayson, Des Moines; University of Michigan Medical School, Ann Arbor, 1875; Bellevue Hospital Medical College, New York, 1880; formerly professor of surgical anatomy and surgical diseases of the rectum and genito-urinary organs at Drake University College of Medicine; aged 80; died, July 11, of heart disease.

Daniel Strock ⊕ Camden, N. J.; Jefferson Medical College of Philadelphia, 1877; past president of the Medical Society of the State of New Jersey, and past president and secretary of the Camden County Medical Society; on the staff of the Cooper Hospital; aged 75; died, July 10, of cerebral hemorrhage.

Charles Murray Dunning ⊕ Franklin, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1899; for several years president of the board of health of Franklin; aged 54; died, July 4, at a hospital in New York, following an operation for gallstones and appendicitis.

Frank Emmett Downs, Toledo, Ohio; University of Pennsylvania School of Medicine, Philadelphia, 1918; member of the Ohio State Medical Association; formerly on the staff of the Mercy Hospital; aged 33; died, July 9, at Oakland, Calif., following an operation for appendicitis.

Joseph Packard Laird ⊕ Miami, Fla.; George Washington University Medical School, Washington, D. C., 1902; served during the World War; aged 50; died, July 7, of heart disease, on the steamship *Cameronia,* while en route to Glasgow, Scotland.

Paul F. Robinson, Indianapolis; Medical College of Indiana, Indianapolis, 1905; member of the Indiana State Medical Association; county coroner; aged 48; died, June 29, at the City Hospital, of injuries received in an automobile accident.

Roscoe Lee Hamilton, Matador, Texas; University of Tennessee College of Medicine, Memphis, 1908; served during the World War; aged 49; died, June 15, at a hospital in Fort Bayard, N. M., of chronic pulmonary tuberculosis.

Enoch George Best ⊕ Greenfield, Mass.; Medical Department of the University of the City of New York, 1882; formerly on the staff of the Franklin County Hospital, where he died, July 3, aged 76, of dilatation of the heart.

Harry Earl Brailey ⊕ Swanton, Ohio; Detroit College of Medicine and Surgery, 1902; past president of the Fulton County Medical Society; aged 49; died, July 3, at a hospital in Toledo, following an operation for sinusitis.

William J. Blewett, Chicago; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1890; member of the Illinois State Medical Society; aged 68; died, July 8, at the Oak Park (Ill.) Hospital, of heart disease.

Lamert Oulton ⊕ Providence, R. I.; Tufts College Medical School, Boston, 1911; on the staffs of the Memorial Hospital, Pawtucket, and the Homeopathic Hospital, Providence; aged 45; died, July 6, of pulmonary tuberculosis.

Willis M. Wilson, Norfolk, Neb.; Keokuk (Iowa) Medical College, 1891; member of the state senate for two years; on the staff of the Norfolk State Hospital for eight years; aged 67; died, May 15, of cerebral hemorrhage.

Evelyn Scott Moore, Akron, Ohio; University of Michigan Homeopathic Medical School, Ann Arbor, 1901; aged 53; died, July 2, as the result of injuries received in an automobile accident several years ago.

Irving Alexander, Sunmount, N. Y.; Middlesex College of Medicine and Surgery, Cambridge, Mass., 1926; aged 27; died, February 13, at the U. S. Veterans' Hospital, number 96, of chronic pulmonary tuberculosis.

George Pope Meecham, Eldred, Pa.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1891; aged 67; died, July 5, at Olean (N. Y.) General Hospital, of carcinoma of the liver and diabetes mellitus.

Daniel A. J. Bell, McCormick, S. C.; University of Georgia Medical Department, Augusta, 1889; member of the South Carolina Medical Association; aged 67; died, June 27, of myocarditis and nephritis.

John F. Williams ⊕ Evansville, Ind.; Chicago Medical College, 1865; member of the Illinois State Medical Society; aged 90; died, July 6, at the Walker Hospital, of carcinoma of the pleural cavity.

John G. Kelly, Hornell, N. Y.; University of Buffalo School of Medicine, 1884; formerly on the staff of St. James Mercy Hospital; aged 70; died, June 20, at the Strong Memorial Hospital, Rochester.

Andrew H. Hise, Carrollton, Ohio; Columbus Medical College, 1879; formerly mayor of Carrollton; aged 76; died, July 1, at the Aultman Hospital, Canton, of cerebral hemorrhage.

James R. Kingsley ⊕ Three Rivers, Mich.; University of Michigan Medical School, Ann Arbor, 1897; on the staff of the City Hospital; aged 58; died, June 30, of cerebral hemorrhage.

Myron Lemuel Chandler ⊕ Barre, Vt.; University of Vermont College of Medicine, Burlington, 1891; on the staff of the Barre City Hospital; aged 63; died, July 14, of heart disease.

William Ketchum Jacobs, Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1899; aged 49; died, June 17, of hypertension and cerebral hemorrhage.

W. L. Stierwalt ⊕ Fremont, Ohio; Toledo Medical College, 1888; on the staff of the Memorial Hospital of Sandusky County; aged 68; died, July 1, of chronic nephritis and uremia.

Lewis D. Brumm ⊕ Celina, Ohio; Physio-Medical Institute, Cincinnati, 1882; aged 66; died, July 4, at a hospital in Lima, following an operation for a malignant tumor of the kidney.

John Z. Lawshe, Atlanta, Ga.; New York Homeopathic Medical College, New York, 1883; aged 70; died, July 5, as the result of a cerebral hemorrhage suffered sometime ago.

James Arthur Campbell, New York; University of Dublin, Ireland, 1889; aged 67; died, June 24, at the New York Hospital, of toxemia following an operation for gallstones.

John F. Randolph, Fayette, Ala , Memphis Hospital Medical College 1898, member of the Medical Association of the State of Alabama, aged 50, was found dead, May 8

Robert Rees Sinclair ⊕ Westfield, N J , Medical Department of the University of the City of New York, 1894, aged 53, died July 11, of carcinoma of the gallbladder

Alexander Gordon Graybiel ⊕ Caledonia, Mich Detroit College of Medicine and Surgery, 1887, aged 70, died, June 29, of cerebral hemorrhage and pneumonia

James William Redmond ⊕ Boston, Harvard University Medical School Boston 1892, aged 60, died, July 7, of coronary thrombosis and chronic myocarditis

Alexander C Whitehill, Brooksville, Pa , Keokuk Medical College College of Physicians and Surgeons, 1905, aged 55, died suddenly, July 4, of heart disease

Eli Otis Cherry ⊕ Newbern Tenn , Medical Department of the Tulane University of Louisiana, New Orleans, 1885, aged 66, died, May 21, of myocarditis

Charles Wilford Camp ⊕ Canaan, Conn , Medical Department of the University of the City of New York, 1875, aged 78, died, June 10, of heart disease

Hugh Rutledge Tison, Allendale S C , University of Georgia Medical Department, Augusta, 1904 aged 45, died, June 30, of chronic myocarditis

William F Boyers ⊕ Fairmont W Va , Barnes Medical College St Louis 1896 on the staff of the Cook Hospital, aged 55, died suddenly, July 2

Eugenia Margaret Culver, Glencoe Ill , Illinois Medical College Chicago 1901 aged 59, died, July 17, at a hospital in Evanston of heart disease

Ephraim Franz Hoffmann, New York, University of Vienna, Austria 1888 aged 65 died, July 9, of coronary arteriosclerosis and thrombosis

Byron Frame Dunkin, Louisville Ky , University of Louisville School of Medicine 1922 aged 30, died July 4 of pulmonary tuberculosis

Ralph L Bentley, Lincoln, Neb , Bennett College of Medicine and Surgery Chicago, 1881 aged 72, died June 5, of valvular heart disease

Samuel B Sheldon, Columbus Ohio, Miami Medical College, Cincinnati, 1869, Civil War veteran, aged 84, died, June 30 of paralysis

Charles Henry Bennum, Georgetown, Del , Medico-Chirurgical College of Philadelphia, 1892, aged 60, died, June 20 of nephritis

James McConnell Harrison, Hattiesburg, Miss , Atlanta (Ga) Medical College, 1880, aged 71, died, June 21, of chronic myocarditis

William Kirksey Freeman, Denning Texas, Barnes Medical College St Louis, 1899 aged 55, died June 7, of heart disease and uremia

Emma Jane West, Manistee, Mich , Hahnemann Medical College and Hospital Chicago, 1899, aged 70 died, July 5, of arteriosclerosis

William Hellman Rosenau ⊕ Banning Calif , Johns Hopkins University School of Medicine, Baltimore, 1921, aged 29, died June 21

Augustus J Woodward, Cincinnati, Miami Medical College, Cincinnati 1875 aged 75, died, July 7, of mitral regurgitation

John B Miller, Tina, Mo , College of Physicians and Surgeons, Keokuk, Iowa, 1873, aged 74, died, June 30, of myocarditis

Ernest Arthur Markham, Durham, Conn , Eclectic Medical College of the City of New York, 1877, aged 73, died, May 22

Harvey Voyles, Bedford, Ind , University of Louisville School of Medicine, 1877, aged 78, died, July 2, of heart disease

Hubert Fairleigh Dunn, Chicago, University of Munich, Germany, 1914, aged 39, died, July 4, of acute appendicitis

Clyde Wheeler Hodges ⊕ Akron, Ohio, Medical College of Ohio, Cincinnati, 1901, aged 48, died, July 13, of diabetes

Julia C. Starr, Beatrice, Neb (licensed, Nebraska, year unknown), died, June 15, following a long illness

Peter Macdougall, Waukau, Wis , National Medical University, Chicago, 1898, aged 76, died, June 10

Charles S Taylor, Los Angeles, Chicago Medical College, 1875, aged 76, died, June 10

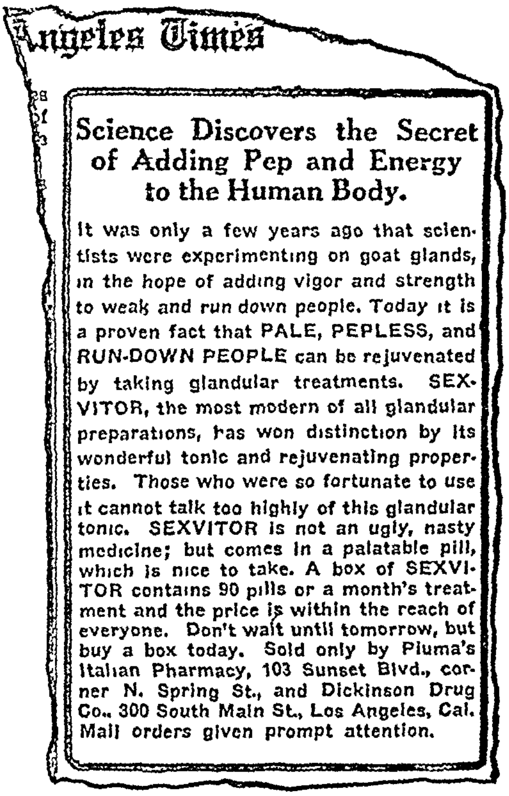
The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

MORE MISBRANDED NOSTRUMS

Abstracts of Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Sexvitor.—Joseph A Piuma of Los Angeles, California shipped in June, 1926, a quantity of "Sexvitor," which was misbranded in violation of the Food and Drugs Act When analyzed by the Bureau of Chemistry, the Sexvitor Tablets were found to consist essentially of strychnine, a phosphorus compound, a laxative plant drug extract, and some animal matter The preparation was sold under the fraudulent claim that it was a superior glandular tonic for men and women, that it would increase energy, enrich the blood, and act "as a vitalizer for pale and pepless people" In December, 1926, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed—[*Notice of Judgment 14805, Issued May, 1927. Chem Suppl 227*]



Angeles Times

Science Discovers the Secret of Adding Pep and Energy to the Human Body.

It was only a few years ago that scientists were experimenting on goat glands, in the hope of adding vigor and strength to weak and run down people. Today it is a proven fact that PALE, PEPLESS, and RUN-DOWN PEOPLE can be rejuvenated by taking glandular treatments. SEXVITOR, the most modern of all glandular preparations, has won distinction by its wonderful tonic and rejuvenating properties. Those who were so fortunate to use it cannot talk too highly of this glandular tonic. SEXVITOR is not an ugly, nasty medicine; but comes in a palatable pill, which is nice to take. A box of SEXVITOR contains 90 pills or a month's treatment and the price is within the reach of everyone. Don't wait until tomorrow, but buy a box today. Sold only by Piuma's Italian Pharmacy, 103 Sunset Blvd., corner N. Spring St., and Dickinson Drug Co., 300 South Main St., Los Angeles, Cal. Mail orders given prompt attention.

Rider's Eucalyptus Oil Compound—The Dr G H Rider Company, San Diego, California, shipped in July and September, 1926, from California to Texas a quantity of "Dr Rider's Eucalyptus Oil Compound," which the federal authorities declared was misbranded When analyzed by the Bureau of Chemistry, the stuff was found to be essentially petroleum oil flavored with sassafras It was sold as a remedy for a long list of ailments, including rheumatism, toothache, croup, epileptic fits, deafness, paralysis, appendicitis, gallstones, bed-wetting, irregular menses, spinal meningitis and pneumonia In December, 1926, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed—[*Notice of Judgment 14806, Issued May, 1927. Chem Suppl 227*]

Moore's Liver-Ax—The Mount Grove Grocery Company, Mount Grove, Missouri, shipped in February, 1926, to Chicago a quantity of "Moore's Liver-Ax," which the federal authorities declared was misbranded When analyzed by the Bureau of Chemistry, the preparation was found to be an extract of laxative plant drugs in a mixture of water and alcohol The therapeutic claims made for the product were false and fraudulent and, in November, 1926, judgment of condemnation and forfeiture was entered, and the court ordered that the product be destroyed —[*Notice of Judgment 14730, Issued April, 1927. Chem Suppl 225*]

Gentol.—Brewer and Company, Inc, Worcester, Massachusetts, shipped in March, 1926, from Massachusetts to Porto Rico a quantity of "Gentol," which was declared misbranded When analyzed by the Bureau of Chemistry, Gentol was found to contain 18 per cent alcohol, about 2 per cent mineral matter, sugar and glycerin It was falsely and fraudulently claimed to be an ovarian and uterine tonic and a remedy for amenorrhea, dysmenorrhea, sterility, habitual abortion, and various other conditions In November, 1926, judgment of condemnation and forfeiture was entered, and the court ordered that the product be destroyed —[*Notice of Judgment 14789, Issued April, 1927. Chem Suppl 226*]

Nervo-Vital.—A quantity of "Nervo-Vital" was shipped in interstate commerce in March, 1926, by Brewer and Company, Inc, Worcester, Massachusetts, and the product was declared misbranded by federal officials When analyzed in the Bureau of Chemistry, Nervo-Vital was found to consist of alcohol, glycerin, sugar, mineral matter, and a small amount of strychnine and nitrogenous matter, together with some water The product was falsely and fraudulently labeled as a remedy or cure for hysteria, sexual debility, nervous prostration, neurasthenia, and various other conditions In December, 1926, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed —[*Notice of Judgment 14789, Issued April, 1927 Chem Suppl 226*]

Correspondence

EXOPHTHALMIC GOITER

To the Editor:—In the interesting and instructive article of Drs Hyman and Kessel on exophthalmic goiter (The Journal, June 25) occurs the statement that "McCarrison and Marine and others who have worked in goiter belts have carefully noted that exophthalmic goiter is no more common in these districts, and seems not to be influenced by the presence of endemic goiter"

That there may be no misunderstanding as to what is meant by exophthalmic goiter, I quote the diagnostic symptoms as laid down in the article by Drs Hyman and Kessel "True exophthalmic goiter is characterized usually by exophthalmos, goiter, tremor, tachycardia and an elevation of the basal metabolic rate Of these symptoms the tachycardia and the elevation of the basal metabolic rate alone are constant" The conclusion that the frequency of exophthalmic goiter or toxic adenoma as thus defined bears no relation to the frequency of simple goiter in a community or state is contrary to my observation on this subject One of the arguments used by our committee for the prevention of goiter in Kentucky will lessen the frequency of toxic goiter, that is, goiter presenting the symptoms mentioned above

If there is no relation between the number of cases of simple goiter and exophthalmic goiter in the same territory, then exophthalmic goiter should occur as frequently in a state where simple goiter is infrequent as where it is a common malady, as in goiter belts

I am under the impression that exophthalmic goiter is far more frequent in northern Ohio and Michigan, for example, where simple goiter is very prevalent, than in the states of Mississippi and Louisiana, where simple goiter is relatively infrequent

Some two years ago, in the investigation of the relationship of endemic and simple goiter with exophthalmic and toxic adenoma, I was forced to the conclusion that the frequency of the former influenced the prevalence of the latter and that exophthalmic goiter and toxic adenoma were often subsequent to the nonsymptomatic goiter At that time Dr Ramsey of the department of health of Michigan wrote me, "Exophthalmic goiter is more frequent in regions where simple goiter is endemic" Also Dr Mayhurst of the department of health of Ohio points out the unanswerable argument that in defects found in drafted men, exophthalmic goiter was more prevalent in the districts where simple goiter reached its highest incidence

Richard R Elmore, M D, Louisville, Ky.

EDUCATION OF THE PUBLIC IN HEALTH

To the Editor —May I offer a different point of view of the subject of the education of the public in medicine and in health discussed respectively in The Journal, June 11, and in *Hygeia* for July? Both editorials referred to the "peculiar notion" of one newspaper health columnist as to what constitutes good exercise As I acknowledge the "somersaulting mania" I beg to correct the editorial misunderstanding about that I have never so intimated, nor even admitted but have often insisted in my column that somersaulting is *not* exercise

Both articles commented on the "strange notion that disease is entirely a matter of the infecting organism and the individual's natural resistance to disease and that factors which may lessen his natural immunity have little or nothing to do with the case" I acknowledge paternity of this strange notion, too But I submit that the editorial states the thought clumsily If there are any factors which may lessen immunity I shall be eager to publish the news to the newspaper reading public the instant medical science determines what these factors are, and at the same time I shall publicly acknowledge that my strange notion was wrong

A third point in these editorials seemed just as inconsistent It was the suggestion that all medical or health matter published to the laity by members of the organized profession should be under the control of organized medicine Such control would prevent the devotion of health columns to personal opinions or "impropaganda" and insure the presentation to the public of the consensus of opinion of the medical profession I fancy the health columnist who tried to present the consensus of medical opinion about the question of the use of iodine to supply the deficiency of ordinary diet and water in that element would find himself about now turning somersaults or flip flops trying to keep in tune with the consensus The consensus of medical opinion is about as tangible as the average man

The attempt to determine the consensus of the profession on a given question is one of the most serious responsibilities of the newspaper health columnist How shall he decide when opinion is divided? He cannot turn to a hypothetic board of control or censorship He can only disengage himself so far as possible from personal concern or bias and reach his own conclusions after careful study of the question before him

How far the organized medical profession is, at this moment, from the proper control of this part of health education is fairly indicated in section 2, chapter III, of the Principles of Medical Ethics, which presumably reflects the consensus of the medical profession on the enlightenment of the public, that is, as nearly as the framers of the Principles could gage it Doubtless each member of the committee had his own peculiar notions or views about the question, so they compromised on some hints about the prisons and asylums

The House of Delegates recognizes, these editorial articles say, that the education of the public in matters of medicine and of health is desirable, and the editorials tell us that most of the fifteen individual physicians at present conducting health columns in the newspapers proffer sound advice—but occasionally a column goes daft on somersaults or fails to warn the public about factors which *may* lessen natural immunity, say getting the feet wet or sitting near an open window! If that is the worst the House can think of this newspaper health column evil, the joke is on the House, for they ain't seen the half of it.

The Association has by its authorized newspaper articles recognized the necessity for personal or individual responsibility for the idea in the article. All the newspaper articles sent out under the auspices of the A. M. A. have been accredited to individual authors. This is an essential principle in such education, whatever objections there may be made against it on the ground of personal advertising. If the author is likely to capitalize publicity, his motives may be open to question. If he enjoys no professional advantage from the publicity, no one can fairly criticize him. This personal responsibility carries with it something more. It is just as necessary that the individual responsible for the article shall have the confidence of his readers as it is that the article shall convey sound advice or teachings. And in order to command the confidence of readers the individual must have the courage to hold opinions of his own. Else why stick his name on anything he may publish?

Here in our own organization, among our colleagues, it might be worth while to hear other views on this modern problem. Criticism, favorable or unfavorable, of anything I may have perpetrated in my newspaper column would be most welcome to me. Indeed, I have received plenty of it from medical friends about the country, and I know such criticism, both kinds, has been of great help in my work.

William Brady, M.D., Buffalo.

INTRACELLULAR HYDROGEN ION CONCENTRATION

To the Editor:—In an editorial (The Journal, July 2) in which the work of Chambers and his co-workers (Chambers, R., and Pollack, H.: *J. Gen. Physiol.* **10**:739, 1927) was discussed and most deservedly praised, it was emphasized that the intracellular hydrogen ion concentration of living cells is remarkably unchanging and uniform except when the cells are injured. Such emphasis may be misleading to those uninformed of previous work in this field of investigation, for it has been clearly demonstrated that such fixity of reaction is *not* the case, particularly in functionally active secreting cells.

In 1924, observations were published (Stieglitz, E. J.: *Arch. Int. Med.* **33**:483 [April] 1924) clearly describing wide variations in intracellular hydrogen ion concentrations in the secreting renal parenchyma, and it was shown that these variations have distinct physiologic associations. Long previous to this work, Harvey and Bensley (*Biol. Bull.* **23**:255, 1912) and others clearly showed a wide range of reaction for specific secreting cells in the gastric gland.

The work of Chambers and his associates is of tremendous significance and beautiful in technic. The conclusions anent the specific tissues studied are amply warranted, but to draw generalizations from these data is precarious. The matter is far more involved than indicated, and interpretation is difficult. Scientific inquiry progresses systematically one step at a time, and the tendency to draw sweeping conclusions is prone to lead to many unnecessary pitfalls.

Edward J. Stieglitz, M.D., Chicago.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INDICATIONS FOR TONSILLECTOMY

To the Editor:—In your opinion, would a tonsillectomy be contraindicated in a throat which gave a positive test for Vincent's angina but in which there was no lesion as a result of the presence of the spirillum? What might be the result of an operation under this condition? Kindly omit name.

M.D., Alabama.

Answer.—It has usually been deemed the best policy by most laryngologists not to operate on tonsils if some infection of the throat is present at the time. It would be safer, in case the organisms that cause Vincent's angina (better called Plaut-Vincent's angina) are present in the throat, to give the arsenic preparations that are usually employed, such as arsphenamine either locally or intravenously, and to wait until the throat smears become negative before operating. The reason for this is that, when tonsils are removed, a great many lymphatic spaces are opened, and if an acute infection is present somewhere in the throat, serious local or systemic complications may occur. It is quite true that many now advocate removal of tonsils at the time of a peritonsillar abscess, but we still believe that the principle of not operating when any acute infection is present in the throat is more likely to prove safer for the patient.

BISMUTH IN SYPHILIS—HEAT TREATMENT OF GONORRHEA

To the Editor:—1. What has been the result of the treatment of syphilis with sodium bismuth thioglycollate? Is there any better preparation of bismuth than "trepol"? 2. What is the best means and what have been the results of the heat treatment of gonorrhea? Please omit my name.

M.D., California.

Answer.—1. We do not know sodium bismuth thioglycollate. The reference is probably to bismuth thioglycollate. "A limited clinical experience indicates that bismuth thioglycollate produces a somewhat more rapid improvement in lesions than do the insoluble bismuth compounds" (Gruhzit, O. M.; Lyons, Edward; and Perkins, Ralph: Bismuth Thioglycollate in Experimental and Clinical Treatment of Syphilis, *Arch. Dermat. & Syph.* **15**:550 [May] 1927).

The Council on Pharmacy and Chemistry declared trepol and neotrepol ineligible for New and Nonofficial Remedies, because (at least as far as it applied to trepol) the composition is not correctly declared, and adequate tests are not furnished for the control of its identity and uniformity (The Journal **86**:135 [Jan. 9] 1926).

Potassium bismuth tartrate is a good preparation.

2. The heat treatment of acute gonorrheal urethritis in men was for a good many years a topic attracting the attention of the specialists. At first it was tried to heat the urethral mucosa by running hot water through a double current metal catheter introduced into the canal. Since production of heat within the tissues by means of high frequency currents came into vogue, this method was tried, the application being administered in two ways. Either the penis was placed in a vessel containing a watery salt solution into which was dipped one of the outlets of the diathermy machine while the indifferent metal plate was pressed somewhere against the trunk of the patient, or as an active electrode a metallic sound, introduced into the urethra, was used. None of these procedures produced any convincing results.

The theoretical conception that the heat applied should be apt to kill the gonococci on the surface and within the deeper layers of the mucosa was refuted by clinical and laboratory facts. Even in the test tube it is impossible to kill cultures of gonococci by heat somewhat exceeding the heat that may be used in living tissues without necrosing them. It also must be considered that the placing of an electrode in the acutely inflamed urethra may produce serious complications, such as periurethritis, cavernitis or perforating abscesses.

In the acute gonorrhea of females the conditions seem to be more favorable, probably because of the simpler anatomic construction of the female urethra; but even here the introduction of an electrode in the canal should be avoided, and the electrode is placed into the vagina, being brought in contact with the external urethral wall.

In acute gonorrheal involvement of the epididymis and prostate, medical diathermy is useful. While one does not always succeed in shortening the course of these disorders, the symptomatic relief in the majority of instances is prompt and satisfactory. For the treatment of acute epididymitis, special clamps are devised; they are obtainable at the medical supply houses. For the treatment of acute prostatitis a club-shaped electrode is introduced in the rectum and the indifferent metal plate is placed on the abdomen.

In treating chronic posterior urethritis, chronic prostatitis, chronic vesiculitis and chronic endocervical and endo-uterine gonorrhea, medical diathermy is a powerful aid.

The introduction of a metallic electrode into the cervical canal and into the uterine cavity is a gynecologic misdeed, because it is apt to bring about the development of severe perimetritis, parametritis and pyosalpingitis. Besides, this method of application is entirely superfluous because all the desirable heating of the portio and the uterine body is brought about by placing an appropriately constructed electrode back of the cervix and the uterine body, the upper pole of the instrument resting against the dome of the posterior vaginal fornix. That the intrapelvic organs in this way may be heated to any degree has been experimentally ascertained.

The heat treatment alone cannot be considered as an infallible curative agent, but it is a powerful adjuvant to all the measures indicated in such patients.

COLLOIDAL KAOLIN IN INTESTINAL TOXEMIA

To the Editor:—Please advise whether a colloidal solution of kaolin is efficacious in the absorption and elimination of intestinal toxemias. Kindly omit name.

———, New York.

Answer.—It is of little or no use for this purpose. Colloidal kaolin chiefly adsorbs basic substances from acid mediums. Alkaline fluid liberates the basic substance from its adsorption compound. Hence much adsorption in the alkaline intestine could hardly be expected. In practice, colloidal kaolin has been disappointing.

WHITE'S CRUDE COAL TAR OINTMENT

To the Editor:—Goeckerman of the Mayo Clinic has recommended White's crude coal tar ointment in the treatment of psoriasis. Can you advise me where this may be obtained, or its formula?

N. Troy Gillette, M.D., Corry, Pa.

Answer.—One formula for White's crude coal tar ointment is as follows: crude coal tar, one-half drachm (2 Gm.); zinc oxide, one-half drachm (2 Gm.); petrolatum, 1 ounce (30 Gm.).

PLASTIC SURGERY FOR SYNDACTYLISM

To the Editor:—One month ago I operated on a baby (aged 6 months) for syndactylism of the third and fourth fingers. Flaps of skin were raised and sutured over the denuded surface of each finger. Insufficient skin made it impossible to make a complete covering on one finger. The line of suture on this finger was at the junction of the medial and palmar aspects of the finger. Healing took place, but contracture of the finger developed from the scar tissue. Today I cut out the scar tissue and made the two skin surfaces meet. (The line of suture on the dorsal aspect of the other finger healed without contractures.) Could you give me an idea of the treatment to be pursued now? What can be done to prevent the formation of new contractures developing from scar tissue? (The tendons were not touched.)

M.D., Washington.

Answer.—It is extremely difficult to secure sufficient adjacent skin to cover the raw surface on both fingers when operating for syndactylism. While this is at times possible, in almost all instances the wisest procedure is to transplant skin to cover all raw surfaces at the time of the primary operation. Especial care should be exercised to place a large flap at the web, which should extend on both the flexor and the dorsal surfaces of the hand so that there will not be a line of scar at the web.

Where operation has been performed and there is a line of contracted scar tissue along the side of the finger, it is wise to dissect out the scar tissue and transplant skin. Any other method of treatment will probably lead to disappointment. Some aid may be secured in preventing contracture by means of binding the finger extended and adducted on a dorsal splint. This must be continued for some weeks after the operation and for some months it must be applied every night, but even with this aid contracture ensues in most patients when skin has not been transplanted. As to the transplantation of skin, while Thiersch grafts are fairly satisfactory, the best results are obtained by a free transplant of whole thickness skin, care being taken to remove all subcutaneous tissue and apply pressure after the transplantation from ten days to two weeks.

TENOSYNOVITIS OF HAND

To the Editor:—Can a tenosynovitis of the hand produce permanent loss of flexion of a terminal phalanx?

Jacob Spitz, M.D., Boston.

Answer.—If the condition has progressed to the stage of destruction it may produce a permanent loss of flexion of the terminal phalanx, but practically every case can be restored to function by physical therapeutic measures, such as massage, passive movements or diathermy, or by operation supplemented by such physical therapeutic measures.

ACNE ROSACEA—CARDIAC ASTHMA

To the Editor.—1. What would be the most effective local and constitutional treatment of acne rosacea of three weeks' duration in a young woman, affecting the forehead, nose and adjoining cheeks? There seems to be no definite cause for this condition in this patient. Would ultraviolet rays help? 2. What would be the best treatment for cardiac asthma in a thin chested asthenic patient with slow, feeble, thready pulse and low blood pressure, and without kidney disease. The most aggravated symptom is shortness of breath and coughing up large quantities of mucus (sputum negative). The patient was well and a hard worker up to last year, at the age of 59 years. What heart stimulant would be best to use? Would iodides do any good intravenously?

M.D., Michigan.

Answer.—1. Acne rosacea in a young woman may be caused by some gastro-intestinal disturbance or by conditions associated with low blood pressure. The constitutional treatment requires regulation of the bowels, restriction of the diet, prohibition of rich food, alcohol, tea, coffee, spices and iodized salt. General hygienic measures are necessary to bring the blood pressure to a normal level. Local treatment is best accomplished by applications of lotio alba in varying strengths, ordinarily in the following formula: solution of calcium hydroxide (lime water), 120; potassium sulphide, 4; zinc sulphate, 4, or an ointment of 5 per cent each of sulphonated bitumen and ammoniated mercury. Ultraviolet rays are helpful in removing the eruption, particularly when the Kromayer lamp is used.

2. *Before any heart stimulant is considered, it would* be necessary to be certain that it is a heart condition. Tuberculosis must be ruled out by physical examination and history, and if necessary a roentgenogram of the chest should be taken. It is not ruled out by a negative sputum or by a great many negative sputums. The bacilli may be absent, or, in very chronic cases, special methods may be required to detect them. Many other pulmonary conditions must be considered. A malignant condition must be ruled out elsewhere, or with metastases in the lungs. If it is a heart condition, before a remedy is prescribed, it must be known just what the condition is, anatomically and physiologically, and the remedy chosen whose physiologic action will meet that condition. In cases of auricular fibrillation, it would be hard to find a drug better adapted to the physiologic needs than digitalis. In other conditions, one of the salts of theobromine or its allies may meet the needs. In most cardiac conditions, it should be borne in mind that the two most reliable remedies are rest and time. Iodides might be of value. Iodides intravenously would not do the patient any more good than iodides by mouth.

EPINEPHRINE AND LOCAL ANESTHESIA IN INTRANASAL SURGERY

To the Editor:—What is the most approved method of doing intranasal surgery under general anesthesia? Is it considered good practice to use a weak solution of epinephrine or epinephrine and cocaine in the nose? If not, what is recommended to obtain shrinkage before general anesthesia is given?

Ray Parker, M.D., Johnstown, Pa.

Answer.—It is a most excellent idea to use epinephrine solution in the nose before general anesthesia is begun or at least during anesthesia before the operation is performed. A 1:1,000 solution may be rubbed on with cotton applicators and then a pause of five or six minutes made before the operation is begun in order to get as complete shrinkage and as much ischemia as possible. Cocaine, of course, is not necessary if general anesthesia is given. It is furthermore advisable to put in a posterior pack before commencing the operation, so that the blood will not run down into the nasopharynx and then down into the pharynx and trachea. If the operation is to be confined to the upper and middle portions of the nose, it is a good idea also to pack gauze along the floor of the nose extending back to the posterior packing which has already been inserted. In this manner there will be little interference in the operative field from the presence of blood.

STATIC AND TUBE STANDS FOR ROENTGEN-RAY THERAPY

To the Editor:—I have a tube stand for therapy, with wooden arms supporting the lead glass bowl. When filters are used there is considerable static discharge from the filters to the patient, except when a ground wire is attached to the filters. I usually operate a broad focus Coolidge tube at 2 to 5 ma. and with a 6 to 7 inch spark gap potential. Would you consider the static dangerous to the patient or to the tube? Do you consider wooden arm tube stands suitable for roentgen-ray therapy? Please omit my name.

M.D., Virginia.

Answer.—A roentgen-ray tube stand constructed of wood and used in roentgen-ray therapy will, under ordinary circumstances, provide sufficient insulation to minimize a high tension leak to the patient's body. A metal stand with wooden arms supporting a lead glass bowl will also prove satisfactory, as a rule; but there are circumstances in which these wooden parts become partial conductors, notably in damp weather.

A static discharge to the patient might occur in the case of a poorly grounded stand with the tube too close to the patient's skin. In the question, this distance is not mentioned. Therefore it is difficult to make an accurate reply. Using a 6 or 7 inch spark gap at 5 milliamperes there should be no static spark from the metal filters to the patient, unless some part of the filter approaches the skin closer than, say, 3 inches. It is proper to ground the tube stand and also the filters. It may be that the bulb of the roentgen-ray tube is too close to the surface of the metal filters which act as a condenser, which, becoming "loaded," endeavors to discharge itself where resistance is least, which might, under certain circumstances, be the patient. This static discharge to the patient is not dangerous, but it is very annoying and disturbing to the one being treated, and, therefore, should be avoided. Some patients misinterpret this static spark discharge for the effect of the roentgen ray, and in one case a suit was instituted on the claim that this was a roentgen-ray burn.

EFFECTS OF BOBBING ON HAIR

To the Editor—I am frequently asked to advise women as to the effects, both immediate and later, of bobbing hair and curling it frequently, and particularly the effects of "permanent waves." Textbooks on diseases of the skin, even the latest editions, do not take up this subject.

Leonard Hays, M.D., Hagerstown, Md.

Answer.—Bobbing the hair probably has no permanent effect on it. It probably does not make it coarse or make it grow less vigorously or more vigorously, either for a short time or permanently. Curling it and permanent waving may cause breaking of the hair, but this is simply a mechanical injury to hair that has already completed its growth and does not produce a permanent bad effect on the growth of the hair.

CORRECTION OF ACID MOUTH

To the Editor:—I should like some information relative to a diet for the correction of acid condition of the mouth which causes destruction of the teeth. Is there such a condition and, if so, is there a corrective diet?

J. W. Bennie, M.D., Clearwater, Neb.

Answer.—The general assumption that normal saliva is alkaline depends on the fact that it turns red litmus paper blue. Owing to its high content of carbon dioxide, however, it displays an acid reaction toward carbonic acid sensitive indicators, like phenolphthalein. The real acidity measured as H ion concentration of the saliva ranges from p_H 5.25 to 7.86, with 6.63 as the average. As the p_H for neutral reaction is 7.07, the reaction of saliva is in general weakly acid, sometimes neutral, occasionally weakly alkaline. It is probable that saliva is always weakly acid owing to the carbonic acid it contains, and that it becomes alkaline only after the carbon dioxide has escaped.

There is no known definite relation between the reaction of saliva and the ingestion of foods. Even the internal administration of acids or alkalis does not produce any change: nor is there a definite relation between salivary reaction and disease. It has been found high in fever patients and in patients with diabetes. But this has been ascribed to insufficient oral hygiene rather than to the disease. One thing is certain, that saliva in the cavities of carious teeth may become quite acid.

When the mouth is not kept clean or in a cleanable condition, the acidity of the saliva is likely to become especially high after sugar, bread or starchy food in general. This is due to the acid products of carbohydrate fermentation. There is here a vicious circle in that caries favor acid production and acid causes caries. The correction lies in cleanliness of the mouth and in dental care to keep the mouth in a cleanable condition. Unless or until such a condition is realized, carbohydrate favors caries. As, however, we cannot get along without carbohydrate, there is really no corrective diet for this condition. One dietary habit that might well be corrected in the interest of oral hygiene is to abandon the use of sweet or starchy dessert at the end of meals.

SUNLIGHT AND ALOPECIA

To the Editor:—1. A question has come up lately regarding the advisability of going bareheaded during the summer months. Is it or is it not true that sunlight, especially when the sun's rays are warm, has a deleterious effect on the hair? It has always been my impression that baldness might be due, in part at least, to the fact that civilized man has kept his head covered for a period of several hundred years. That, in addition to the tightness of the hat band, which interferes with the proper circulation of the scalp, has been my concept of the probable etiology of baldness. Lately an article has come to my attention, apparently fostered by hat manufacturers, which states that the heat rays of the sun especially are harmful. Please give your opinion on this subject. 2. What treatment would you suggest for very fine dry hair with clean scalp and no dandruff, which shows a tendency to drop out to some extent? My treatment has been castor oil with 20 per cent alcohol. At times I have also used plain liquid petrolatum. 3. Please suggest the name and publisher of a work on dermatology which in your opinion goes thoroughly into detail on the subject of baldness and its preventive treatment. Please delete name.

M.D., Pennsylvania.

Answer.—1. There is a difference of opinion among dermatologists on the effect of extreme exposure of the hair and scalp to sunlight. Some men think the stimulation is useful; others are quite of the contrary opinion. The personal opinion of the writer of this answer is that such exposure is likely to be deleterious. Our correspondent's impressions about the etiology of baldness are common. Nobody actually knows its etiology.

2. Probably persistent massage, done by the individual himself—simply rubbing the scalp back and forth with his fingers until it feels a little bit tender, and doing this twice a day—is of some use in controlling premature baldness; as much use as anything else. The scalp should be kept clean by washing it as often as necessary with soap and water, say once a week. If the hair is dry, grease it lightly. For this purpose there is nothing better than liquid petrolatum, which has the advantage that it does not become rancid.

3. Diseases of the Hair, by Jackson and McMurtry, published by Lea & Febiger in 1912, is an excellent treatise on this subject.

SKIN CLIPS OR SUTURES

To the Editor:—What is the status of using clips for suturing wounds? Is there sufficient authority for their use, as compared with threaded sutures, to make it stand test in court? Kindly omit name.

M.D., Illinois.

Answer.—Michel clips have been used for suturing wounds of the skin for many years and have been found quite satisfactory. They are about as suitable for skin closure as are sutures, but they cannot be made to take the place of tension sutures.

KETOGENIC DIET IN EPILEPSY

To the Editor:—Please tell me where I can get an outline of the ketogenic diet used in the treatment of epilepsy. Is it valuable in the treatment of petit mal?

M.D., Minnesota.

Answer.—M. G. Peterman, in his article entitled "Ketogenic Diet in Epilepsy" (The Journal, June 27, 1925, p. 1979), writes: "Every patient treated with the diet is given an individual prescription." In a later article, entitled "Epilepsy in Childhood" (The Journal, June 11, 1927, p. 868), the same author gives a sample menu, together with general principles from which other menus could be easily calculated.

The Journal, June 25, 1927, p. 2028, contained an article by H. F. Helmholz, entitled "The Treatment of Epilepsy in Childhood: Five Years' Experience with the Ketogenic Diet."

Four different diet lists are given in an article by M. G. Peterman, entitled "The Ketogenic Diet in the Treatment of Epilepsy" (*Minnesota Med.* 7:708 [Nov.] 1924).

The literature on the ketogenic diet is voluminous and many references accompany the article by M. G. Peterman, already cited as appearing in THE JOURNAL, June 11, 1927.

The question concerning the use of the diet in petit mal is answered by the following sentence, quoted from an article by M. G. Peterman, entitled "The Ketogenic Diet in the Treatment of Epilepsy" (*Am. J. Dis. Child.* 28:28 [July] 1924): "The most favorable results have been obtained in cases of petit mal, which form of epilepsy does not respond so well to phenobarbital."

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Detroit, Sept. 12. Sec., Dr. W. H. Wilder, 122 S. Michigan Blvd., Chicago.

ALASKA: Juneau, Sept. 6. Sec., Dr. Harry C. DeVighne, Juneau.

NATIONAL BOARD OF MEDICAL EXAMINERS, Parts I and II., Sept. 14-16. *Applications should be made by August 10.* Sec., Dr. John S. Rodman, 1600 Walnut Street, Philadelphia.

NEW HAMPSHIRE: Concord, Sept. 8-9. Sec., Dr. Charles Duncan, Concord.

OKLAHOMA: Oklahoma City, Sept. 13-14. Sec., Dr. J. M. Byrum, Shawnee.

PORTO RICO: San Juan, Sept. 6. Sec., Dr. D. D. Biascoechea, Box 804, San Juan.

Massachusetts March Examination

Dr. Frank M. Vaughan, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, written and practical examination held in Boston, March 8-10, 1927. The examination covered 17 subjects and included 70 questions. An average of 75 per cent was required to pass. Of the 57 candidates taking the physicians' and surgeons' examination, 34, including 5 osteopaths, passed and 23, including 10 osteopaths, failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
Boston University School of Medicine	(1925) 83.8, (1926)	78.3, 83.5
College of Physicians and Surgeons, Boston	(1926)	76.7, 83.5
Harvard University	(1921) 85.5, (1923)	86.4, (1925) 86.7, (1926) 81.7, 84.1
Middlesex College of Medicine and Surgery	(1924)	76.3, (1926) 76.7, 77
Tufts College Medical School	(1925)	79.1, (1926) 76, 78.5, 79, 82.1, 89
Washington University School of Medicine	(1925)	85.8
Creighton University College of Medicine	(1924)	85.5
Bellevue Hospital Medical College	(1889)	78.4
Woman's Med. College of Pennsylvania	(1921) 89.2, (1926)	84.9
University of Vermont College of Med.	(1925) 85.3, (1926)	87.3
Queen's University Faculty of Medicine	(1914) 76.9, (1924)	79.8
University of Paris, France	(1925)	77.5
Osteopaths		75.1, 75.9, 77.2, 78.7, 78

FAILED

College	Year Grad.	Per Cent
Middlesex College of Medicine and Surgery	(1922)	71.2, (1923) 67.9, 70, 73, (1924) 69.5, (1926) 65.5, 66.6, 68.9, 73.6
Kansas City University of Physicians and Surgeons	(1926)	65.4
University of Buffalo Department of Medicine	(1919)	71.7
University of Montreal Medical Faculty	(1924) 71.2, (1925)	56.4
Osteopaths		25, 51.5, 64, 67.5, 68.7, 69, 69.7, 72.5, 73.5, 73.6

Idaho April Examination

Hon. Fred E. Lukens, Commissioner of Law Enforcement of Idaho, reports the written examination held in Boise, April 5-7, 1927. The examination covered 13 subjects and included 130 questions. An average of 75 per cent was required to pass. Two candidates were examined, both of whom passed. Eight candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
Harvard University	(1925)	86
Creighton University College of Medicine	(1926)	84

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
College of Medical Evangelists	(1925)	California
Denver College of Medicine	(1900)	Washington
Northwestern University Medical School	(1907)	Illinois
	(1912)	Washington
University of Illinois College of Medicine	(1901)	N. Dakota
University of Minnesota Medical School	(1913)	Minnesota
Western Reserve University School of Medicine	(1923)	Ohio
University of Pennsylvania School of Medicine	(1925)	Wisconsin

Book Notices

MAORI SYMBOLISM. Being an Account of the Origin, Migration and Culture of the New Zealand Maori as Recorded in Certain Sacred Legends. Report made by Ettie A. Rout, New Zealand Law Court Reporter from the evidence of Hohepa te Rake, an Arawa Noble. With a preface by Sir William Arbuthnot Lane, Bart., C.B., M.S. Cloth. Price, $6. Pp. 322, with illustrations. New York: Harcourt, Brace & Company, Inc., 1926.

The major part of the evidence in this report was furnished to the author by a noble Maori, with the purpose of putting on record sacred legends handed down by word of mouth. It appears that the New Zealand Maori, or Mauri as better spelled and pronounced, claim that they originated in Assyria, left Mexico 3,400 years ago for Peru, and thence proceeded westward, reaching New Zealand about 1,200 years ago. At that time numbering 800, they multiplied to more than a million at the end of the eighteenth century, but after the coming of Europeans they dwindled to the 50,000 of today. The decrease is attributed to bullets and European diseases. Their ancient civilization is said to have included monolithic human images 30 feet tall, terrace gardens, the discarding of bow and arrow in warfare because these eliminated the tall men and were thus inimical to race culture, duels between monarchs to avoid indiscriminate bloodshed, "peaceful death" to hopelessly wounded soldiers or to deformed children, bowel movements thrice a day, emphasis on sunlight as the life giver and on exercising the waist rather than the limbs, control of sex of the unborn child (p. 72), an art impregnated with male and female life-symbols, and a number of utopian doctrines plagiarized by Samuel Butler, Ruskin, Darwin and Wallace.

NEW AND NONOFFICIAL REMEDIES, 1927, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1927. Cloth. Price, postpaid, $1.50. Pp. 473 + XLVII. Chicago: American Medical Association, 1927.

Among the hundreds of new remedies that are offered to the medical profession each year are always some that have real value as additions to the physician's armamentarium. But how is the individual physician to discriminate among these? He cannot take at face value the optimistic statements of the advertisements and the manufacturer's detail man. He does not have the time to investigate and prove them. Fortunately this is done for him by the distinguished group of scientists who compose the Council on Pharmacy and Chemistry of the American Medical Association. The current edition of New and Nonofficial Remedies presents to the medical profession disinterested, critical information about the proprietary preparations which the Council has found worthy of acceptance. In addition to the description of these proprietary preparations, the book considers unofficial remedies which, in the opinion of the Council, are worthy of consideration.

The book is designed for ready reference: each preparation is classified, and each classification is preceded by a general and critical discussion of the group by one who is an authority on the subject; there is an exhaustive index. A glance at the preface shows the most important revision this year to be that of the general article on Lactic Acid-Producing Organisms, which has been radically revised and rewritten to show the present status of therapy in this field. Many preparations have been omitted because the manufacturers or distributors have not presented evidence to demonstrate their continued eligibility. Some have been omitted because they have become official articles by inclusion in the tenth edition of the U. S. Pharmacopeia; such articles when marketed under the pharmacopeial name or synonym and without special therapeutic claims do not require description in New and Nonofficial Remedies.

Among the preparations newly admitted to the book are isacen, a product related to phenolphthalein; ipral, a barbital hypnotic; a cod liver oil concentrate having a definite vitamin A and vitamin B potency, and three erysipelas streptococcus antitoxin preparations.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find in the back of the book a bibliographic index to proprietary and unofficial articles not included in N. N. R., which is a cumulative list of references to published articles dealing with preparations that have not been accepted.

New and Nonofficial Remedies is indispensable to any physician who prescribes drugs. It contains information about medical products which cannot be found in any other publication.

VENEREAL DISEASE: Its Prevention, Symptoms and Treatment. By Hugh Wansey Bayly, M.C., Hon. Sec., Society for the Prevention of Venereal Disease. Third edition. Cloth. Price, 10/6 net. Pp. 242, with 77 illustrations. London: Faber & Gwyer, Ltd., 1927.

The author takes a decided stand against the attempts of some lay people to discredit the importance of prophylactic measures against inoculation with venereal diseases. He emphasizes strongly the necessity of immediate self-disinfection. At the same time he demands full instruction of the public as to the dangers of infection and as to the efficacy of the prophylactic methods developed by the medical profession. The clinical diagnosis of syphilis and gonorrhea is fully gone into and the text is illustrated by instructive pictures, many of them in natural colors. The urologic and microscopic diagnosis is thoroughly discussed and all the details employed for the procuring of the specimens are mentioned. The phases of treatment are elucidated by a full description of all the paraphernalia to be used with regard to the demands of daily practice. The usefulness of diathermy in gonorrheal disorders, while acknowledged, is wisely restricted to chronic processes. Special attention is paid to the establishing of the concept of a true cure with the dependent permission of marriage. In discussing the treatment of advanced parasyphilitic disturbances by inoculation with malaria and the combination of arsenic preparations with embodiment of foreign proteins, the author withholds definite judgment until further experience has been reported. The book may be considered a concise but practically complete guide for the prophylaxis, diagnosis and treatment of venereal infections.

GENERAL SYSTEMATIC BACTERIOLOGY: History, Nomenclature, Groups of Bacteria. By R. E. Buchanan, Ph.D., Professor of Bacteriology, Iowa State College, Ames, Iowa. Cloth. Price, $6. Pp. 597. Baltimore: Williams & Wilkins Company, 1925.

This is the first of a series of monographs on the subject to be brought out under the editorial direction of the Society of American Bacteriologists. It presents in three parts a classification and an historical account of bacteria, several codes of nomenclature and their relationship to bacterial terminology, and an alphabetical list of all the names that have been used by various authors to designate bacterial subgenera, genera or higher groups. The original descriptions are quoted as well as the varied spellings of subsequent writers, sufficient information to present the exact status of each name. Typical of a discussion is the following concerning the term "treponema":

> Treponema. A generic name proposed by Schaudinn (1905, p. 1728) for the species *Treponema pallida*, the causal organism of syphilis. This organism was first named *Spirochaete pallidum* by Schaudinn and Hoffmann (1905), later the generic name *Spironema* (q. v.) was proposed by Vuillemin (1905). Schaudinn noted that Spironema was preoccupied, and proposed *Treponema*. A short time later *Microspironema* was proposed by Stiles and Pfender (1905). Blanchard (1906, p. 4) gives the following generic diagnosis:
>
> Corps spirale, non aplati, a section cylindrique, effilé aux extremites. Un flagelle a chaque extremite, pas de membrane ondulante. Multiplication par division longitudinale, le stade initial pouvant etre marque par la duplicite du flagelle a l'une des extremities. Une seule espece certaine: Tr. pallidum (Schaudinn (1905).
>
> This generic name was also used by Swellengrebel (1907, p. 582). Dobell (1910, p. 536) extended the definition to include all the spirochetes parasitic in animals. Döflein (1911) treats *Treponema* as a subgenus under *Spirochaeta*. Gonder (1914, p. 687) gives the following description.
>
> Der einzellige Organismus ist stark flexibel, wodurch neben der schrauben oder korkzieherartigen Bewegung auch eine schlangelnde, peitschende. Bewegung hervorgerufen werden kann. Die eng gewundene Spirale bleibt dabei fast unverandert, ist praformiert. Besonders bei den pathogenen Formen ist die Zahl der steilen Windungen auffallend grosz. Eine feine plasmatische Hülle (periplast), die an den Enden in feinste geiszelartige Fortsatze auslaufen kann, ist edenfalls vorhanden. Die Fortpflanzung geschieht, soweit bis heute festgestellt werden konnte, durch Langs- oder Querteilung.
>
> Winslow et al. (Committee Soc. Am. Bact., 1917, p. 563) include this as genus four of the family *Spirochaetaceae* with the description:
>
> *Treponema* Schaudinn. Parasitic and frequently pathogenic forms with undulating or rigid spirilliform body. Without crista or columella. With or without flagelliform tapering ends.
>
> The type species is Treponema pallidum Schaudinn.
>
> Buchanan (1918, p. 544) proposed the following description:
>
> Cells slender, spiral, not flattened, attenuated at tips, without crest. Multiplication by longitudinal or by cross division. Parasites in warm blooded animals. Motile.
>
> The type species is *Treponema pallida* Schaudinn.
>
> Castellani and Chalmers (1919, p. 454) include this as the single genus of the family *Treponemidae* q. v.
>
> Bergey et al. (1923, p. 426) include this genus as the fifth in the family *Spirochaetaceae* with the diagnosis "Parasitic and frequently pathogenic forms with undulating or rigid spirilliform body. Without crista or columella. With or without flagelliform tapering end.

DOC. FACTS, FABLES AND FOIBLES. By John A. Dillon, M.D. Cloth. Price, $2. Pp. 168. Boston: Richard G. Badger, 1926.

Under the nom de plume RenigAde, Dr. John A. Dillon for several years has published sketches in the *Kansas Medical Journal*. These have been outstanding in their philosophy and in their humor. Some of them have been republished in part in the Tonics and Sedatives column. Any physician who wishes to while away a few hours in thorough enjoyment of a revelation of medical foibles will find his money for the purchase of this book exceedingly well spent. Examples of the humor and epigram of this volume are the following:

> The American College of Surgeons has practically done away with fee-splitting as it is called. The result has been that most physicians have felt themselves called upon to do their own operating and now surgeons are almost as common as filling stations.
>
> The swell girls you have met through the medium of your friend, the fizz mixer are also fairly well known around the soft drink palaces and can usually be found running in droves about dish washing time. They are mostly good girls who quit school in the seventh grade on account of headaches.
>
> The practice of medicine is a jealous mistress and will not tolerate intrigues with golf, baseball nor anything else that tends to divorce affection from the legally adopted spouse.
>
> No patient with a symptom complex sufficiently grave to call the doctor will accept the services of one whose breath smells like something the cat found under the granary.
>
> To ask a badly bow legged man to point the knees toward each other and pivot on his metatarsal would, of course, be useless instructions for the reason that we have never known a bow legged man who knew what pivot was.
>
> The average golf player can make about the same score with a boat oar and a potato masher as he can with a gunny sack full of niblicks and stances.

DIE ABTREIBUNG: Eine medizinisch-soziologische Studie in bildlichen Darstellungen fur Arzte, Juristen und Soziologen. Von Universitäts-Professor Dr. W. Liepmann, Direktor des Deutschen Instituts für Frauenkunde. Paper. Price, 12 marks. Pp. 24, with 24 plates. Berlin: Urban & Schwarzenberg, 1927.

This small work is full of astonishing and depressing facts. Criminal abortion in Europe is on the increase. In Russia it is a legalized procedure, and records show that almost a million abortions have been performed. In Germany in 1921 there were (estimated) 240,000 (Benthin), in 1923 (estimated), 500,000 (Hyneman), in 1926 (estimated), 875,750 (Neverman), and among the last, 43,782 deaths. Sepsis, aided by perforation of the uterus (peritonitis and hemorrhage), explains the mortality. A table shows the rapid increase of the number of reported uterine perforations, 500 per cent in the last thirteen years. The vast majority are produced by physicians who attempt the abortion in their offices or at home; therefore Liepmann insists that therapeutic abortion and the treatment of spontaneous abortion should be reserved for the clinic. The clinical history and course of twenty cases of perforation are given together with beautifully executed plates descriptive of the operative or postmortem observations. An interesting paragraph is devoted to the psychology of the physician and the patient. The first is in a state of amentia; the latter hides the facts. Liepmann does not hope for much improvement through better medical education. The city and state should devote part of the money now spent on saving defectives to the establishment of institutions for the care of pregnant women and to the advancement of their interests. A good monograph, presented in Liepmann's clear-cut teaching style, intended to warn the profession and the public against criminal abortion.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender Selections will be made for more extensive review in the interests of our readers and as space permits Books listed in this department are not available for lending Any information concerning them will be supplied on request

The Plague Problem in South Africa, Historical, Bacteriological and Entomological Studies By J Alexander Mitchell M B, Ch B D P H, Secretary for Public Health and Chief Health Officer for the Union of South Africa J H Harvey Pirie B Sc, M D, F R C P I Bacteriologist and Pathologist, Research Division of the Institute and A Ingram, M D, Medical Entomologist to the Institute Vol III of Publications of the South African Institute of Medical Research Paper Pp 85 256 with illustrations Johannesburg South African Institute for Medical Research, 1927

Review of further attempts to eliminate an ancient pest from one section of the world

Studies on Clonorchis Sinensis (Cobbold) By Ernest Carroll Faust, M A, Ph D, OO Keh Khaw, M B, Ch B, D P H, Yao Ke Fang, M D, and Chao Yung An With a consideration of the Molluscan Host of Clonorchis Sinensis (Cobbold) in Japan China and Southeastern Asia and Other Species of Molluscs Closely Related to Them By Bryant Walker, Sc D Monographic Series No 8 of the American Journal of Hygiene. Paper Pp 284, with illustrations Baltimore American Journal of Hygiene, 1927

Monographic consideration of a tropical parasite

Contributions to the Study of Miners' Phthisis By A Mavrogordato M A, M R C S, L R C P, Research Fellow in Industrial Hygiene South African Institute for Medical Research Publications of the South African Institute for Medical Research Volume III No XIX Paper Price, 5 shillings Pp 83, with illustrations Johannesburg South African Institute for Medical Research, 1926

Monograph with conclusion that prevention demands suppression of dust, removal of open cases, assay of resistance and experiments with preventive vaccines

The Status of Hygiene Programs in Institutions of Higher Education in the United States A Report for the Presidents' Committee of Fifty on College Hygiene By Thomas A Storey, M D, Ph D, Director and Professor of Hygiene and Physical Education for Men, Stanford University Volume II No 1 Paper Pp 125 Stanford University Stanford University Press, 1927

Report of survey indicating that teaching of hygiene is lamentably weak in institutions of higher education

Handbuch der praktischen Therapie als Ergebnis experimenteller Forschung Herausgegeben von Reinhard von den Velden, a o Professor an der Universitat Berlin und Paul Wolff, Dr Med et Phil, Berlin II Band 1 Halfte, und II Band, 2 Halfte Paper Price, 76 mark Pp 1333, with 22 illustrations Leipsic Johann Ambrosius Barth 1927

Two parts of extensive German system of therapeutics

Beiträge zur Geschichte der Erkennung der Beriberi als Avitaminose Von Prof Dr G Grijns Neue Folge, Heft 1 zu Fortschritte der naturwissenschaftlichen Forschung Herausgegeben von Prof Dr Emil Abderhalden Paper Price, 3 marks Pp 32 Berlin Urban & Schwarzenberg, 1927

Monographic consideration tracing growth of knowledge concerning vitamin deficiency in relation to beriberi

Die chirurgische Behandlung der Gehirntumoren Eine klinische Studie Von Dr Herbert Olivecrona Privatdozent, Oberarzt an der chirurgischen Universitatsklinik im Seraphimerkrankenhaus, Stockholm Paper Price, 27 marks Pp 344, with 228 illustrations Berlin Julius Springer, 1927

Monographic consideration of operation for brain tumor with study of almost a hundred cases

The Prevention of Diphtheria By J Graham Forbes, M D, F R C P, D P H Medical Research Council Special Report Series, No 115 Paper Price 2s net Pp 84, with illustrations London His Majesty s Stationery Office, 1927

Monograph concluding that Schick test and immunization constitute a great advance and should be widely adopted

Handbuch der mikroskopischen Anatomie des Menschen Herausgegeben von Wilhelm v Mollendorff Band V Verdauungsapparat 1 Teil Mundhohle Speicheldrusen Tonsillen, Rachen Speiserohre Serosa Von T Hellman, und Anderen Paper Price 72 marks Pp 374, with 276 illustrations Berlin Julius Springer, 1927

Volume five of a new system of histology

Die unregelmassige Herztatigkeit Von K F Wenckebach und H Winterberg 2 Bands (Textband und Tafelband) Cloth Pp 655 with 63 illustrations in 'Textband and 184 plates in Tafelband Leipsic Wilhelm Engelmann, 1927

Complete and authoritative consideration of use of modern methods of study of lesions of the heart

La bronchite chronique syphilitique Etude anatomo radiologique et clinique des scleroses bronchiques et peribronchiques au cours de la syphilis tertiaire du poumon Par R Benda Paper Price 18 francs Pp 148 with illustrations Paris Gaston Doin & Cie 1927

Monograph on syphilis of the lung with special reference to differential diagnosis

The Life and Work of Sir Patrick Manson By Philip H Manson Bahr, D S O, M D F R C P and A Alcock, C I E, LL D, F R S Cloth Price $5 50 Pp 273, with illustrations New York William Wood & Company, 1927

Attractive biographical note of one of the great investigators of tropical diseases

Allgemeine Konstitutionslehre in naturwissenschaftlicher und medizinischer Betrachtung Von O Naegeli o o Professor der inneren Medizin an der Universitat Zurich Paper Price 9 60 marks Pp 118, with 14 illustrations Berlin Julius Springer, 1927

Monographic consideration on relation of constitution to disease

Grundbegriffe der Kolloidchemie und ihrer Anwendung in Biologie und Medizin Von Dr Hans Handovsky a o Professor an der Universitat Gottingen Second edition Paper Price, 2 70 marks Pp 62, with 6 illustrations Berlin Julius Springer, 1927

New edition of elementary handbook of colloid chemistry

Frakturen und Luxationen Ein kurzgefasstes Lehrbuch fur Arzte und Studierende Von Dr Med K H Bauer a o Professor fur Chirurgie an der Universitat Gottingen Paper Price 15 marks Pp 256, with 237 illustrations Berlin Julius Springer, 1927

Brief routine textbook of fractures and dislocations

Lister as I Knew Him By John Rudd Leeson, M D, C M M R C S, Senior Consulting Physician St John s Hospital Twickenham Cloth Price $3 50 Pp 212, with illustrations New York William Wood & Company, 1927

A brief biography with a personal point of view

L'angine de poitrine et l'angine abdominale Par D Danielopolu, professeur de clinique medicale a la Faculte de medecine de Bucarest Paper Pp 435, with 159 illustrations Paris Masson & Cie 1927

Beautifully illustrated volume on angina pectoris with special reference to diagnosis

El instinto de la muerte Por R Novoa Santos Paper Pp 184, with illustrations Madrid Javier Morata, 1927

Imaginative Spanish views of death

How to Make the Periodic Health Examination A Manual of Procedure By Eugene Lyman Fisk, M D, Medical Director Life Extension Institute and J Ramser Crawford M D Assistant Medical Director, Life Extension Institute Foreword by Major General Merritte W Ireland Surgeon General, United States Army Cloth Price $4 Pp 393, with illustrations New York Macmillan Company 1927

Twenty Fourth Annual Report of the Bureau of Science Philippine Islands Including a Summary of Twenty Second and Twenty Third Annual Reports for the Year Ending December 31, 1925 By Wm H Brown, Director of the Bureau of Science Paper Pp 61 Manila, 1927

Proceedings of the Forty First Annual Meeting of the Conference of State and Provincial Health Authorities of North America, May, 1926 American Health Congress Series Vol III Cloth Pp 236 Albany Boyd Printing Company, 1927

Physiologie normale et pathologique du globulin (Plaquette de Bizzozero) Par Jacques Roskam, titulaire de la chaire de pathologie a l Universite de Liege Boards Price, 25 francs Pp 151, with illustrations Paris Universitaires de France, 1927

Biennial Report of the State Board of Health to the Governor of the State of Arizona for the Years 1925 1926 Paper Pp 38 Phoenix, 1927

Statistical Report of the Health of the Navy for the Year 1924 Paper Price, 4d 6s net Pp 127 London His Majesty s Stationery Office 1927

Poradenitis y su tratamiento por el tartaro emÉtico Tesis de grado Por Jos J Aristizabal M Paper Pp 48 Medellin, 1927

Scritti biologici Raccolti da Luigi Castaldi Paper Pp 274, with illustrations Siena 1927

Medicolegal

Valid Complaint of Unlawfully Prescribing Morphine

(Ex parte Lord (Calif.), 250 Pac. R. 711)

The Supreme Court of California, in discharging a writ of habeas corpus and remanding the petitioner to custody, says that he was found guilty on a complaint which charged that on a certain date he, a licensed and practicing physician and authorized to prescribe certain narcotic drugs, including morphine, did then and there wilfully, wrongfully and unlawfully prescribe and deliver to a named woman under a prescription more than 4 grains of morphine, to wit, approximately 5 grains of morphine, for one daily treatment of the woman, she being then and there a habitual user of narcotic drugs, to wit, of morphine. The petitioner contended that the complaint was fatally defective in failing to allege that he did not furnish or prescribe the morphine in good faith, and that the woman, his patient, was not suffering from an incurable disease, ailment or injury. But the court does not agree with that contention.

The prohibition against furnishing or prescribing narcotic drugs to habitual users thereof is found in section 8 of the state statute of 1907, as amended, the effect of which section is to permit a licensed physician to furnish or prescribe in good faith narcotic drugs to any habitual user thereof under his professional care, provided such prescriptions are not given or substances furnished for the purpose of evading the provisions of the statute. The limitation as to the amount of narcotic drugs that may be so furnished or prescribed is found in section 8½, added in 1919, by which a physician is prohibited from prescribing or furnishing more than 4 grains of morphine as a daily treatment. The good faith and intent with which the morphine is furnished or prescribed has no relation to the amount of the drug so furnished or prescribed to the person for whom it is prescribed by the physician. If the morphine is prescribed in good faith to a habitual user of narcotic drugs under the professional care of the physician and, without intent to evade the purposes of the statute, then the physician has not offended against the provisions of section 8. But, if in so prescribing or furnishing the drug, even though he complies with all the terms of section 8, he exceeds the amount called for by section 8½ as a daily treatment, he has violated the prohibition contained in the latter section and subjected himself to the penalty prescribed by the statute. Therefore, in charging the petitioner with a violation of section 8½ of the statute, as the complaint herein attempted to do, it was not necessary to allege therein that the petitioner had also offended against the provisions of section 8 or to show in any manner his failure to meet its requirements.

The provision of section 8½ permitting more than 4 grains of morphine to be prescribed or furnished to a patient suffering from an incurable disease, ailment or injury is an exception to the general rule laid down by section 8½ of the statute making it an offense to prescribe or furnish more than 4 grains of morphine as a daily treatment, and is contained in a proviso to the definition of the offense as contained in section 8½. The authorities in California are without conflict that such exceptions and provisos are to be negatived in the pleading only where they are descriptive of the offense or define it, and that where they afford matter of excuse merely they are to be relied on in defense. The petitioner appeared to concede that to be the law, but contended that it had no application here for the reason, as he asserted, that the complaint failed to allege that he had committed any act prohibited by the terms of the statute and therefore stated no public offense against him. The offense denounced by section 8½ is that of the furnishing by a physician to his patient of more than 4 grains of morphine as a daily treatment, and the complaint in apt language charged that offense, which was all that was required. If there were any exceptions to this rule within which the petitioner might come and thus excuse himself from the charge so alleged, he might show such excuse as a matter of defense. The complaint accordingly was sufficient and not subject to the attack that it did not state a public offense.

In short, the complaint charged him with a violation of section 8½—that is, furnishing more than 4 grains of morphine for one daily treatment—and if he committed the act thus charged the only condition under which he could be innocent of the offense so charged was by showing that he had administered the morphine to a person who had an incurable disease. It was his right to show as a defense that such exception applied to him, but it was not the duty of the prosecution either to plead or to prove that he was not within the permissive scope of such exception.

Skill Required in Obstetric Case—In the Country

(Mason v. Geddes (Mass.), 154 N. E. R. 519)

The Supreme Judicial Court of Massachusetts says that the defendant by the use of forceps delivered the plaintiff of her first child, as a result of which the plaintiff suffered an extensive tear of the perineum going through into the sphincter muscle. Eleven days later the defendant called a practicing surgeon to make arrangements to operate on the plaintiff to repair the tear, but the defendant decided that such operation should not be performed until three months later, and the surgeon testified that such delay was required under the circumstances. A nurse who was present when the child was delivered testified that during the operation the forceps slipped on the child's head, that the chair slipped from under the defendant and he fell to the floor, that he said he would not "sew her up then, that he would do it later. He said he did not feel equal to doing it. He said he felt tired and didn't want to do it at that time. He didn't say when he would do it." The hospital records showed that he was called at 1:40 a. m., and that the child was delivered fifteen minutes later. There was also evidence tending to show that much patience and time are required in the delivery of a child with the aid of forceps, and that with the first child it would require probably about an hour to do it properly.

Although the evidence tending to show negligence on the part of the defendant in the delivery of the child was meager, yet if the testimony of the nurse that the forceps slipped and that the chair occupied by the defendant while using them slipped from under him and he fell to the floor was believed, as also the evidence that he delivered the child in fifteen minutes, in connection with the other evidence, a finding of negligence was not unwarranted. It could have been found that either by carelessness in the use of the forceps, or by undue haste in the delivery of the child, or by both, the plaintiff received the injury complained of. The defendant was responsible to the plaintiff for failure to use the care and skill ordinarily possessed by members of his profession in the community where he practiced.

It was alleged that the defendant negligently failed to operate on the plaintiff seasonably. Several physicians, including the defendant, testified that an operation of that nature should not be performed immediately after childbirth, that it should be delayed for three months or more (for reasons given), and that by such delay better results would be obtained. A physician from Boston, called by the plaintiff, testified that an operation to repair the torn part should be performed as soon as possible. He was the only witness who so testified. On cross-examination he said that the tearing of the perineum and sphincter muscle sometimes happened without any fault of the physician, that it should be repaired at once if the condition of the patient was such that it could be safely done. He further testified: "I find reputable doctors whose opinions I ought to respect advise that repair operations be deferred," but he afterward said that he thought it perfectly reasonable that some physicians held a different opinion from his—he didn't know.

The plaintiff was entitled to have the question of the defendant's negligence considered on the aspect of the evidence most favorable to her, in considering whether a verdict should have been directed for the defendant on the count of the declaration regarding the delay. If negligence for failure immediately to repair the tear was to be found, it must rest on the testimony of the Boston physician alone. If the jury believed his testimony that the operation should have been performed immediately after the delivery of the child there was no evidence that the delay was harmful to the plaintiff or that such delay was evidence of negligence. In his direct examination he was asked: "Would you say that the reasonable probabilities are that if it was taken care of right away you would be able to get a better union than you would if it was postponed?" His answer was, "As good at least." On this testimony it did not appear that the delay resulted in a different condition than if the repair operation had been performed at once. To hold otherwise would allow the jury to determine the question of the negligence of the defendant merely on speculation or conjecture. The medical skill required of a physician in a large city cannot be regarded as the test of the professional qualifications required of a physician in the country. Physicians called by the plaintiff and by the defendant, practicing in the town and vicinity where the defendant practiced, testified that his treatment was proper. If this evidence was not credited by the jury, still there was no evidence warranting a finding that the defendant failed to exercise the skill ordinarily possessed by members of his profession in that town or in that locality. It followed that a refusal to direct a verdict for the defendant on the count in question was error.

Evidence as to Existence of Disease at Given Time

(Scharlach v. Pacific Mut. Life Ins. Co. (U. S.), 16 Fed. R. (2d) 245)

The United States Circuit Court of Appeals, fifth circuit, in affirming a judgment for the defendant on this second appearance before it of this action on two policies of life insurance, where it was contended that the insured was not in good health when the policies were delivered to him, says that a cancer disclosed by an operation may not be evidence sufficient to support a finding as to how long it had existed, and at the same time be conclusive proof that it had been in existence several months. Where the disease in question is one the existence of which at a given stage of it is not discoverable, even by a skilled physician, except by ascertaining existing symptoms and making an examination of the blood of the person in question, a finding by a physician, based on such an examination, that that person has such disease, cannot well be said to be put in issue or impeached by a finding of the absence of disease by another physician, who made no such examination, and from whom the symptoms suggesting such examination were concealed; or by testimony, based only on observation of such person's outward appearance, that he then seemed to be in good health. Obviously, such evidence lacks probative value, where the question is whether a person has, or is free from, a disease or ailment which is not discoverable by merely observing the outward appearance of that person.

Medical Expenses as Evidence in Negligence Cases

(Alt v. Konkle (Mich.), 211 N. W. R. 661)

The Supreme Court of Michigan says, in relation to the admission of evidence of the amounts charged and paid for medical and surgical treatment, nursing and hospital service, in an action to recover damages for personal injuries caused by negligence of the defendant, that some of the Michigan cases stress the value of the expenditures as the thing to be proved. In others, it is the actual outlay or amount of expense. The value of the outlays or expenses is not alone the test. Nor is the total of the amounts actually paid out. A plaintiff may have had value for his expenditures, the amounts may have been actually paid, or liability incurred, and still, in part, at least, may have been unnecessary. The plaintiff is entitled to recover a reasonable sum, necessarily expended; or, as it has been held, "his reasonable and necessary outlays in an attempt to be cured of the injuries resulting from the negligence of the defendant." A plaintiff may show, in these cases, the sums actually paid or to be paid, but to recover such sums he should adduce evidence that the same are reasonable in amount and that the expenditures were necessary, for he may recover no more than the reasonable value of such of the same as were necessary. If the medical service, etc., have not been paid for and liability therefor has not been determined by account stated, or otherwise, and if the same have been furnished under circumstances entitling the plaintiff to recover therefor, he may show reasonable value and recover for such as were necessary. The evidence in this case showed that the medical and surgical attention, nursing and hospital service were necessary. Although there is respectable authority to the contrary, this court holds that the fact that these bills and charges for services, shown to have been rendered, had been paid in full was some evidence of their reasonableness, and that there was no error in refusing to strike out such evidence on the ground that it was not admissible without proof that the charges were reasonable and necessary.

Leaving Hospital Too Soon and Refusing Operation

(Consolidated Coal Co. v. Crislip et al. (Ky.), 289 S. W. R. 270)

The Court of Appeals of Kentucky, in affirming a judgment which affirmed an award of the workmen's compensation board in favor of plaintiff Crislip of $15 a week during total disability, not to exceed $6,000, says that he, during the course of his employment as a coal loader, sustained an injury to his left hip. He testified that after he had been in a hospital for twenty-three days the physician who had charge of his case told him that he could go home if he had crutches; that while he was at the hospital the physicians told him that he had no fracture of the hip, but had merely sustained an injury to the muscles and ligaments, and that use would probably help him. A roentgenogram taken then was some time afterward examined by physicians who contended that his hip was fractured, and that, if he had remained in the hospital and had not used his hip, he would have made a complete and perfect recovery. As it was, his leg was shortened an inch and a half or more, and his hip was stiff. But it could not be said that his failure to remain in the hospital was an unreasonable refusal, failure or neglect to submit to or follow competent surgical treatment or medical aid or advice, as he said he was advised to leave the hospital and to use his leg, and no one denied that. There was evidence that this was a very unwise thing to do, but, wise or otherwise, it was what he was told to do by the physician or surgeon who had his case in charge, and the defendant could not be relieved because, in the light of subsequent developments, it had been found that the plaintiff's hip was fractured, and that, by use of it before the fracture had healed, the shortening and other bad results were produced.

While the plaintiff may have unfortunately used his leg too soon, it could not be said that he carelessly did so, for he used his leg on the advice of and in the manner directed by the physician and surgeon in charge of his case and of the hospital where he was being treated. His experience showed plainly that the use of his leg then was a mistake. He knows now that was not the proper thing to do, but there was nothing to show that he knew so then. No one disputed that, except a physician who in his deposition said, "It was common talk around the hospital that somebody gave Crislip a pair of crutches and he slipped off from the hospital and walked home." But common talk is not evidence in a case like this.

It was suggested that by an operation it might be possible to relieve the stiffness of the joint. The evidence was that this was a very serious operation, and that, if the stiffness was due to some intracapsular trouble it would be impossible to relieve that condition, while if the stiffness was due to some extracapsular trouble, the operation might probably relieve the stiffness. The plaintiff declined to submit to such an operation. The court, however, does not agree with the suggestion that the plaintiff should submit to an operation and that, as he refused to do so, the defendant should be relieved from paying further compensation under the workmen's compensation act of that state.

Nor does the court agree with the contention that the defendant should be relieved from paying further compensation because it had already paid $2,423.56, and the plaintiff still had his leg, whereas the maximum allowance for the loss of a leg was $2,400, so that the defendant had already paid for the injury to the leg more than it would have had to pay if the leg had been amputated. That was true, but this award was made to the plaintiff, not for the loss of a leg, but for loss of his ability to work. The weight of the evidence and the finding of the board was that he was totally disabled.

The next question was, What did the legislature mean by the expression "total disability for work"? The court did not find a definition of the identical phrase, but it found one of a phrase which meant the same thing. That was in *Moore* v. *Peet Bros. Mfg. Co.*, 99 Kan. 443, 162 Pac. 295, where the court, having for definition the expression "total incapacity for work," said: "One who is disqualified from performing the usual tasks of a workman in such a way as to enable him to procure and retain employment is ordinarily regarded as totally incapacitated." That definition of that phrase by that court seems to this court to be the correct definition of the phrase before it.

Jurisdiction of Suit Against Employer for Services

(Knox Stove Works v. Hodge (Tenn.), 289 S. W. R. 505)

The Supreme Court of Tennessee says that plaintiff Hodge, having treated an employee of the defendant for injuries sustained under such circumstances as to render the defendant liable under the workmen's compensation act of Tennessee, brought suit before a justice of the peace to recover for such professional services, and obtained a judgment against the defendant for $28, which the circuit court affirmed, and the supreme court thinks correctly affirmed. But, while the court may very well have concluded from the evidence that the plaintiff was regularly retained by the defendant to render medical attention to such of the employees of the latter as were hurt in the course of their employment, and that the defendant had undertaken to assume liability for such services, and counsel for the defendant had stated that the defendant would concede everything necessary to a recovery by the plaintiff against the defendant, except the question of jurisdiction, the defendant denied the jurisdiction of a justice of the peace to entertain such a suit. That denial of jurisdiction was based on section 32 of chapter 123 of the acts of 1919—the workmen's compensation act—conferring jurisdiction of controversies with reference to compensation under this act between the employer and the employee on the judge or chairman of the county court, the circuit, criminal or chancery court concurrently, and based on the provisions of the first and last paragraphs of section 25 of the act. The first paragraph of section 25 deals with the case in which the employer undertakes to furnish medical treatment, and the second with the case of an emergency or the failure of the employer to provide treatment, in which the employee or his dependents provides it. Both say, in effect, that all cases of dispute as to the value of such services shall be determined by the tribunal having jurisdiction of the claim of the injured employee for compensation.

Where the employee or his dependents seek to recover of the employer expenses on such account, the dispute is obviously to be determined by the tribunal having jurisdiction of the matter of compensation to the employee or his dependents. The provision in the first paragraph, this court thinks, has reference to a dispute between the employee and the employer as to whether the employer has furnished medical services, etc., equal to the requirements in the context.

It is not, in the opinion of the supreme court, the intention of chapter 123 to prevent an employer from making a contract with a competent physician to look after the injured employees of such employer. Nor does the court think it was the intention of the act to deal with controversies between such employer and such physician with respect to their rights under such contract. The jurisdiction specially conferred on the various courts was of disputes with reference to "compensation under this act between the employer and employee or the dependents of the employee."

If the employee should sue for the value of medical services that he procured for himself, under the last paragraph of section 25, jurisdiction of such suit would be in the courts named in section 32. Likewise, if the employee should sue for the failure of the employer to furnish the medical services required of the employer by the first paragraph of section 25, jurisdiction of such a suit would be in the courts named in section 32. Both suits would involve, as a matter of fact, compensation to which the employee might be entitled under the act. Other similar cases can be supposed.

The suit before the court, however, was one of a physician for services rendered under a contract with an employer. There was here no controversy between employer and employee. The suit here did not rest on chapter 123 of the acts of 1919, but was based on a contract, and jurisdiction of such a suit lies in the same tribunals as have jurisdiction of a suit for a like amount on any other contract. The court does not find it necessary to express any opinion as to whether the attending physician of the injured employee, when no special contract existed between that physician and the employer, might maintain a direct suit against the employer for services rendered the employee. The proof here and the concession of counsel for the defendant made out a special contract. It followed from the foregoing that the justice of the peace before whom this suit was tried had jurisdiction thereof, and, as the case was submitted to the circuit court, that court could do nothing but affirm the magistrate's judgment. However, since the case was not one involving workmen's compensation, jurisdiction of this appeal in error was in the court of appeals, and an order would therefore be entered transferring the case to that court for formal affirmance.

Breaking Bones of Toes Not the Breaking of a Leg

(100% American Local Mut. Life & Accident Ass'n et al. v. Work et ux. (Texas), 289 S. W. R. 1020)

The Court of Civil Appeals of Texas, in reversing a judgment obtained by the plaintiffs, Work and his wife, says that the association issued a certificate of insurance to him providing for certain indemnity in the event that he should break an arm or a leg. It was alleged that he "accidentally broke one of his legs, to wit, one of the bones in the lower part of his leg." It was shown that a wagon ran over his right foot, breaking the bones in the big and second toes. The trial court, on the authority of *Rogers* v. *Modern Brotherhood of America*, by the Kansas City Court of Appeals, 131 Mo. App. 353, 111 S. W. 518, held the defendants liable and rendered judgment accordingly. In that case it was held that the fracture of the heel bone was protected by an accident policy which insured against breaking the leg. But, with due deference to that court, this court declines to follow its ruling. The contract here sued on agreed to indemnify in case the member "should break an arm or leg." There was nothing in the contract to indicate that the parties intended this language to be used in other than its plain, ordinary and popular sense. As such it means—as to the leg—a broken bone anywhere between the ankle and the hip, with the possible exception of the patella. A broken toe is not a broken leg, as those terms are commonly and universally understood and used. No one would ever think of referring to a broken toe as a broken leg. This court therefore holds that the injury of the insured was not protected by the certificate of insurance.

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, Detroit, September 12-16. Dr. W. P. Wherry, Bankers Reserve Life Building, Omaha, Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Asheville, N. C., September 15-17. Dr. J. E. Davis, 111 Josephine Avenue, Detroit, Secretary.

American Electrotherapeutic Association, New York, September 12-16. Dr. Richard Kovacs, 223 East Sixty-Eighth Street, New York, Secretary.

American Roentgen Ray Society, Montreal, Canada, September 20-23. Dr. C. L. Martin, Baylor Hospital, Dallas, Texas, Secretary.

Colorado State Medical Society, Glenwood Springs, September 6-8. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.

Idaho State Medical Association, Twin Falls, August 29-31. Dr. J. N. Davis, Kimberly, Secretary.

Missouri Valley, Medical Society of the, Des Moines, Iowa, September 14-16. Dr. Charles Wood Fassett, 115 East Thirty-First Street, Kansas City, Mo., Secretary.

Oregon State Medical Society, Salem, September 1-3. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.

Washington State Medical Association, Tacoma, August 29-31. Dr. C. H. Thomson, 508 Cobb Building, Seattle, Secretary.

Wisconsin, State Medical Society of, Eau Claire, September 21-23. Mr. J. G. Crownhart, 153 Oneida Street, Milwaukee, Executive Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

American Journal of Ophthalmology, Chicago

10: 399-478 (June) 1927

Effect of Size of Stimulus on Size and Shape of Color Fields. C. E. Ferree and G. Rand, Bryn Mawr, Pa.—p. 399.
Myiasis with Chronic Degeneration of Cornea. R. E. Wright, Madras, India.—p. 411.
Cystic Phase of Glioma (Retinoblastoma). C. Pascheff, Sofia, Bulgaria. —p. 413.
Intra-Ocular Foreign Body Problems. P. S. Mertins, Montgomery, Ala. —p. 414.
Lens Expression Hook. F. O. Schwartz, St. Louis.—p. 416.
Visual Acuity and Color Perception of Railway Employees. H. Reim, St. Louis.—p. 418.
Ophthalmologic Internal Medicine. J. H. Gibbes, Columbia, S. C.—p. 421.
Eyes in Brain Localization. F. E. Brawley, Chicago.—p. 426.
Hereditary Optic Atrophy. J. E. Reeder, Sioux City, Iowa.—p. 429.
Associated Movement of Jaw and Upper Lid (Jaw Winking). E. L. Goar, Houston, Texas.—p. 431.
Conjunctivitis and Dermatitis Due to Butyn. F. H. Newton, Dallas, Texas.—p. 432.
Suppurative Tenonitis Arising from Dormant Corneal Infection. W. H. Crisp, Denver.—p. 433.

American Journal of Surgery, New York

2: 415-526 (May) 1927

Treating Fractures of Femur in Adults. N. W. Cornell, New York. —p. 415.
Multiple Fractures: Two Cases. F. Christopher, Evanston, Ill.—p. 422.
Thyroid. J. H. Means, Boston.—p. 425.
*Four Thousand Anesthesias in Thyroid Surgery. A. F. Renneker, Cincinnati.—p. 431.
Treatment in Acute Mechanical Intestinal Obstruction. H. B. Eisberg, New York.—p. 435.
*Inflammatory Conditions of Digestive Organs. A. L. Soresi, New York. —p. 443.
Roentgenography in Diagnosis of Gastro-Intestinal Perforation. M. H. Todd, Lynch, Ky.—p. 449.
Loop Operation for Paralysis of Adductors of Thumb. L. Mayer, New York.—p. 456.
Physical Therapy. W. L. Secor, Kerrville-on-the-Guadalupe, Texas.— p. 459.
Spontaneous Rupture of Deep Epigastric Artery: Two Cases. H. B. Epstein, Newark, N. J.—p. 462.

Anesthesia in Thyroid Surgery.—Renneker considers gas and oxygen with proper preliminary medication as the anesthetic of choice in thyroidectomy, although it is the most difficult to administer.

Inflammatory Conditions of Digestive Organs. — Soresi describes faulty anatomic conditions that cause and precede pathologic processes observed in the digestive organs, such as ulcers of the stomach and duodenum, carcinoma of the stomach, pancreatitis, duodenitis, cholecystitis and cholelithiasis, stenosis and obstruction of the intestine, acute and chronic appendicitis, and chronic constipation. He contends that micro-organisms would not cause any lesion if the faulty anatomic conditions described did not exist. In order to cure the pathologic conditions mentioned, the faulty anatomic structure must be corrected first.

American Journal of Syphilis, St. Louis

11: 165-336 (April) 1927

*Treatment of Neurosyphilis and Paresis with Malaria. H. Goldsmith and R. Rockwood, Baltimore.—p. 165.
Occurrence of Jaundice in Syphilitic Patients. N. Tobias, St. Louis.— p. 180.
*Headache: Syphilis as Possible Cause. C. B. Craig, New York.—p. 190.
*Accidental Syphilitic Infection in Physicians. O. Berghausen, Cincinnati.—p. 197.
*Superinfection with Spirochete of Syphilis; Case. H. M. Greene, Portland, Ore.—p. 200.
Syphilis of Epididymis. H. G. Greditzer, St. Louis.—p. 202.
*Case of Cerebrospinal Syphilis. F. R. Starky, Detroit.—p. 208.
Deep Pain Sense in Tabes Dorsalis (Locomotor Ataxia). J. W. Stephenson, New York.—p. 212.
*Syphilis of Nervous System. T. B. Throckmorton, Des Moines, Iowa. —p. 215.
*Intraspinous Injections of Sodium Iodide in Tabes Dorsalis. G. B. Lawson, Roanoke, Va.—p. 226.
Effects of Mass Treatment on Epidemiology of Treponematosis. C. S. Butler and R. P. Parsons, Haiti.—p. 228.
Effect of Formalin on Velocity of Wassermann Reaction. C. E. Reyner, New Haven, Conn.—p. 233.
Modern Tendencies in Syphilis Therapy. G. E. Slotkin, Buffalo.—p. 240.
Syphilis and Germ Plasm. H. M. Young, St. Louis.—p. 245.
Treponematosis in Rural Population of Haiti. C. S. Butler and E. Peterson, Haiti.—p. 251.
Atypical Syphilis—A. A. Crance, Geneva, N. Y.—p. 262.
Negative Wassermann: What Does It Mean? O. L. Mulot, New York. —p. 265.
*Value of Routine Spinal Fluid Analysis in Detecting Neurosyphilis. D. L. Kerlin, Shreveport, La.—p. 276.
Influence of Formalin on Wassermann Reaction. C. E. Reyner, New Haven, Conn.—p. 280.
Multiple Tabetic Trophic Disturbances: Case. J. Frischer and F. E. Diemer, Kansas City, Mo.—p. 288.
Microscopic Slide Precipitation Test for Syphilis. B. S. Kline and A. M. Young, Cleveland.—p. 290.
Neisser-Wechsberg Phenomenon of Complement Deviation in Wassermann Reaction. A. J. Hinkleman, Oklahoma City.—p. 295.
Relationship of Wassermann Reaction, Cells and Globulin-Content, and Colloidal Gold Precipitation Reaction of Spinal Fluids in Syphilitics. T. Thjøtta and H. Saethre, Oslo, Norway.—p. 306.

Malaria Treatment of Neurosyphilis.—Of fourteen patients treated by Goldsmith and Rockwood, eight, or 57 per cent, have been paroled and are working at their regular vocations; last reports show them to be doing very well.

Syphilis as Cause of Headache.—In the presence of persistent or recurrent headache with or without other symptoms, Craig says, organic disease of the central nervous system must be suspected until disproved.

Accidental Syphilitic Infection of Physicians.—The twenty-two instances of accidental syphilitic infections studied by Berghausen show clearly that the layman is more likely to be infected on the lip; hence, the health authorities should continue their campaign of instructing the general public to be careful in the use of sanitary drinking vessels in public places, and their supervision over barber shops and manicure parlors. The physician is more liable to accidental infection of the finger, and should therefore exercise precaution in all special examinations, and properly care for minor injuries of the fingers.

Superinfection with Syphilis.—Greene's patient had two proved chancres in two years. There was a definite history of exposure each time. Spirochetes were found in material obtained from the chancre, and the lesion rapidly resolved following the administration of sulpharsphenamine.

Cerebrospinal *Syphilis.*—The Wassermann reaction of the blood and spinal fluid was negative in Starky's case, but there was a high cell count and the response to antisyphilitic treatment justified a diagnosis of cerebrospinal syphilis.

Neurosyphilis.—In any unexplained group of symptoms referable to the nervous system, Throckmorton says, syphilis should always be thought of as a possible etiologic factor until ruled out by lack of clinical and serologic evidence.

Sodium Iodide Intraspinally in Tabes Dorsalis.—Three patients with far advanced general paralysis were treated by Lawson with sodium iodide intraspinally. The sodium iodide was used in gradually increasing doses until as much as 3 grains (0.2 Gm.) was given at one time. At first there was an improvement, but later on it was doubtful if there had been any permanent betterment in the condition. One young man with early general paralysis received similar treatment, and he appeared much improved both clinically and serologically.

Value of Routine Spinal Fluid Analysis.—Kerlin stresses the value of routine spinal fluid analysis in detecting neurosyphilis. Four cases in point are reported.

American Review of Tuberculosis, Baltimore

15: 521-632 (May) 1927

Social Importance of Heliotherapy in Surgical Tuberculosis. A. Rollier, Leysin, Switzerland.—p. 521.
*Surgical Treatment of Pulmonary Tuberculosis. G. Sayago, Cordoba, Argentine Republic.—p. 544.
*Factors Influencing Early Mortality Following Extrapleural Thoracoplasty. E. Archibald, Montreal.—p. 564.

*Treatment of Laryngeal Tuberculosis in Sanatoria C D Parfitt, Gravenhurst, Ont —p 579
Intestinal Tuberculosis D A Stewart, Ninette, Man —p 588
*Tuberculosis in Children H D Chadwick, Westfield, Mass —p 601
Significance of Cough Droplets and Dry Dust in Spread of Tuberculosis. I Neufeld, Berlin —p 609
Formation of Giant Cells in Tissue Cultures Similarity to Those in Tuberculous Lesions W H Lewis, Baltimore —p 616
Experimental Tuberculosis in Rats on Varied Diets. III. Salt Factors. L B Lange, Baltimore —p 620

Thoracoplasty for Pulmonary Tuberculosis.—Among fourteen typical thoracoplasties done by Sayago, four patients were cured and five were improved There were two operative deaths, and in three cases death was due to progression of the tuberculosis and to other causes

Factors Influencing Mortality of Thoracoplasty.—Archibald decries the one-stage operation, the removal of too many ribs or of too long portions of ribs, local anesthesia in large amounts, wound infection and cough during and soon after operation, which spreads the disease into the sound lung, as causes of an unnecessarily high mortality following extrapleural thoracoplasty

Treatment of Laryngeal Tuberculosis—Of 872 tuberculous patients reported on by Parfitt, 134 (15 4 per cent) had laryngeal tuberculosis and eighty-five (9 7 per cent) nontuberculous laryngitis *B tuberculosis* had been found in all but one of the patients with laryngeal tuberculosis Parfitt advocates sanatorium residence for these patients, with voice rest and the use of the galvanocautery Of the 134 cases, forty-five have been classified as apparently arrested or higher; thirteen as apparently cured; twelve as arrested, twenty as apparently arrested, seven as quiescent, twenty-one as improved, and sixty-one as unimproved In isolated sanatoriums and in those not blessed by having an energetic laryngologist on the visiting staff, Parfitt says that a staff physician should be detailed to learn the technic of safe instrumentation and to treat the group of laryngeal cases with the galvanocautery Treatment by cauterization has proved to be desirable in approximately 20 per cent of Parfitt's cases, and curative in 60 per cent of these It has largely displaced less effective time-consuming methods, and more difficult and distressing cutting operations, with the exception of epiglottidectomy. Parfitt estimates that today there are in this country 25,000 patients with laryngeal tuberculosis for whom the galvanocautery is needed more than half of whom should obtain an arrested laryngeal lesion by its use

Tuberculosis in Children.—Chadwick's experience shows that an occasional case of pulmonary tuberculosis may be found in children at any age above 5 years, but not until the age of 14 does its incidence equal 1 per cent of the children examined Further, the roentgen-ray evidence indicates that some of the cases of pulmonary disease in children extend from the hilum or from a partially calcified, primary focus in the parenchyma of the lung In finding these cases, one cannot depend very much on the usual examination of the chest The physical examination of the chest in children is of less importance than in adults; and, when râles are found in a child's chest, they are almost always due to some other condition than tuberculosis In searching for such cases, therefore, one should do the cutaneous or intracutaneous test in all children, and then examine all the reactors with the roentgen ray. By so doing, the latent, as well as the active cases, will be brought to light

Annals of Clinical Medicine, Baltimore

5:913 991 (April) 1927

Treatment of Peptic Ulcer. F Smithies, Chicago —p 918
Use and Abuse of Iodine in Treatment and Prevention of Goiter D. Marine, New York —p 942
Direct Sunlight in Treatment of Tuberculosis S H. Watson, Tucson, Ariz —p 950
*Thyroid Extract in Management of Pleural Effusions C. S Danzer, New York —p 959.
*Pernicious Anemia G G Richards and L L Daines, Salt Lake City. —p 966
Chronic Arthritides from Standpoint of Etiology and Management W. C. Stoner, Cleveland —p 972

Thyroid Extract in Treatment of Pleural Effusions.—Seven cases of pleural effusion were treated by Danzer with thyroxin or desiccated thyroid. Three of the cases were of a primary tuberculous nature, and the remainder occurred in the course of pneumonia In six cases there resulted a very marked reduction in the quantity of fluid after from four to twelve days of thyroid feeding The parapneumonic effusions reacted better to thyroid than did those of tuberculous origin It is suggested that thyroxin or active thyroid preparations be given patients with pleural effusion, especially when spontaneous reabsorption is delayed.

Dietetic Treatment of Pernicious Anemia.—Richards and Daines present a summary of a survey of fifty cases of pernicious anemia which they were able to follow during a period of ten years, and a preliminary report of the results obtained by dietetic treatment in twenty cases In the first group the results from any treatment were entirely discouraging The benefits from transfusions were often striking but only temporary Splenectomy possibly prolonged the remissions The end was fatal in all but three of the fifty cases. In the second group only two of the twenty cases have failed to show improvement The diet consisted of from 150 to 175 Gm protein, 200 to 250 Gm fat and 75 Gm. carbohydrate, which is later increased to 110 Gm To this from 1 to 1½ quarts of buttermilk is added The food value of this diet will range from 2,500 to 3,500 calories. The proteins are derived from eggs, cottage cheese and buttermilk. The fats come largely from cream, butter, eggs, oil dressings and the meat fats The carbohydrates consist mostly of from 5 to 10 per cent vegetables and fruits, especially oranges and grapefruit, and also of one cooked cereal and some whole wheat bread.

Annals of Surgery, Philadelphia

85:641 800 (May) 1927

*Experimental Researches on Vasomotricity. R. Lériche and R Fontaine, Strasburg, France —p 641
*Suture of Wounds of Heart W. H. Cole, St Louis —p 647.
Pericardial Decompression in Treatment of Wounds of Heart After Cardiorrhaphy. J C O'Day, Honolulu, Hawaii —p. 653.
Purulent Pericarditis in Childhood E G Williamson, Philadelphia —p 659
Phlegmonous Gastritis J. C A Gerster, New York —p 668.
Benign Hypertrophy of Stomach and Linitis Plastica: Two Cases. K Dwight, New York —p 683.
*Effect on Jejunal Mucosa of Transplantation to Lesser Curvature of Stomach. G de Takats and F. C Mann, Rochester, Minn —p 698
Acute Dilatation of Stomach Occurring Under General Anesthesia M. A McIver, Boston —p 704
Causes of Death Following Operations for Perforated Gastric and Duodenal Ulcers J. B Stenbuck, New York —p 713
*Tumors of Cecum J F Erdmann and H E Clark, New York —p 722.
Advantages of Low Median Line Incision in Exploratory Laparotomy for Carcinoma of Rectum or Rectosigmoid. W. E Sistrunk, Rochester, Minn —p 732
Classification of Renal and Ureteral Anomalies E. Papin, Paris, and D N. Eisendrath, Chicago —p 735
Spinal Anesthesia with Anhydrous Cocaine. Five Hundred and Fifty-Seven Cases J R Wells, Philadelphia —p 757
Use of Regional Anesthesia by Nerve Block Method for Reduction of Fractures and Dislocations S Mage, New York —p 765

Vasomotricity.—The hypothesis offered by Lériche and Fontaine is that the place of production of the vasomotor actions which regulate the local circulations must be referred to the periphery.

Suture of Wounds of Heart.—Cole reports a case of stab wound of the heart. The wound in the left ventricle measured about 1 cm by 2 cm. and was bleeding quite freely. Six or seven interrupted catgut sutures were applied before the wound could be closed and all bleeding suppressed. Despite a stormy convalescence, the patient made a complete recovery.

Fate of Jejunal Transplants.—Transplants of jejunum with intact blood supply, from the region where gastrojejunal ulcer develops following gastro-enterostomy in man, were made by de Takats and Mann into the lesser curvature of the stomach in dogs at the site where gastric ulcer usually occurs in man. A typical peptic ulcer developed in the transplant in a small percentage of instances This fact appears significant, as ulcers did not develop when the transplant was made elsewhere in the gastric wall The results of these experiments add more suggestive data to the hypothesis that mechanical stress is an important factor in determining the site of the formation of peptic ulcer.

Tumors of Cecum.—Forty-eight cases of cecal tumor were studied by Erdmann and Clark Carcinoma was found in thirty-seven instances, tuberculosis in seven, chronic inflammation in two and lymphosarcoma in one, in one the diagnosis was undetermined Other tumors occasionally found are cyst, gummas, lipomas, tuberculomas, papillomas, cholesteotomas, leiomyomas and actinomycosis The ileocecal region is the site of predilection for tuberculosis, because of the right lymphatic supply Regional glandular metastasis was found in 25 per cent of the cases reported The ileocecal valve was involved in 48 per cent The Friedrich operation was the method of choice, being performed in twenty-eight of the thirty-seven cases of carcinoma, with a mortality of 21 4 per cent

Archives of Otolaryngology, Chicago

5: 385 468 (May) 1927

*Nature of Laryngeal Vibration R West, Madison, Wis —p 385
*Intratracheal Inhalation Method of Intratracheal Anesthesia P J Flagg, New York —p 394
*Pathologic Conditions of Ear, Nose and Throat in Diabetes J C Beck and H L Pollock Chicago —p 400
*Nature of Progressive Deafness S J Kopetzky, New York —p 404
Salivary Calculus of Submaxillary Gland A J Wagers, Philadelphia —p 411
*Influence of Filtered Quartz Light on Nasal Ganglion H Meyersburg, New York —p 415
Tonsils and Adenoids A W Proetz, St Louis —p 424

Nature of Laryngeal Vibration—West asserts that each cycle of laryngeal vibration consists of one complete movement of each of the two vocal bands, and these two movements are in opposite phase Vocal sounds are controlled in pitch partly, at least, by the adjustment of the pharynx

Intratracheal Inhalation—A safe, improved and simplified intratracheal method for general anesthesia is offered by Flagg which may be generally employed for all operations about the head and neck The method provides a dry, quiet, odorless field of operation, with increased safety to the patient, both from an anesthetic and from a surgical point of view

Ear, Nose and Throat Complications of Diabetes.—The most frequently occurring complication found by Beck and Pollock in seventy-four cases was tonsillitis (thirty-one cases), next came deviated septum and hypertrophic turbinates (twelve cases), acute otitis media and mastoiditis (nine cases), suppurative rhinosinusitis (six cases), and chronic otitis media (five cases)

Nature of Progressive Deafness—Kopetzky regards chronic progressive deafness as being a local manifestation of a general metabolic disorder, one which rarely, if ever, exists as an isolated entity Judging by further observations on the calcium content of the blood in cases of deafness, he is certain of the value of the derangement of this element in establishing a diagnosis of chronic progressive deafness

Influence of Quartz Light on Nasal Ganglion—Meyersburg has found that filtered mercury vapor quartz light, properly applied, is followed by relief from symptoms in many cases of secretory and sensory disturbances of the nasal ganglion, but the effects thus obtained are not permanent in the seasonal secretory cases A tolerance to ultraviolet rays is developed in the mucous membrane as in the skin Too many treatments and too long exposures are to be avoided

Archives of Pathology & Lab. Med., Chicago

3 · 751 920 (May) 1927

*Origin of Histiocytes (Macrophages) in Lungs B M Fried Boston —p 751
Microscopic Anatomy of Infantile Amaurotic Idiocy R R Grinker, Chicago —p 768
*Dynamics of Histogenesis in Cardiac Repair O C Perkins and A M Miller, New York —p 785
*Primary Sclerosis of Pulmonary Artery and Its Branches C M Bacon and C W Apfelbach, Chicago —p 801
*Follicular Lymphadenopathy with Splenomegaly D Symmers, New York —p 816
Eosinophilia in Vermiform Appendix E F Koch, New York —p 821
Apparatus for Blood Counting E R Serles, Brookings, S D —p 828

Origin of Histiocytes in Lungs.—The phagocytes or "dust cells" in the pulmonary alveoli in inflammatory and congestive processes, Fried says, are macrophages or histiocytes, and therefore cells of mesenchymal origin These cells originate from the nucleated cells, commonly spoken of as the (respiratory) epithelial cells lining the wall of the pulmonary alveoli The so-called epithelial cells lining the pulmonary alveoli are to all appearances not epithelial but cells of mesenchymal origin—that is to say, they are histiocytes, and belong to the reticulo-endothelial system

Dynamics of Histogenesis in Cardiac Repair.—With increasing age but without cardiac or other vascular lesions, Perkins and Miller aver that there is an increase in the amount of elastic tissue in the different layers of the heart wall Collagenous fibers may be transformed into elastic tissue in consequence of prolonged stress and strain on the connective tissue containing the collagenous elements

Primary Sclerosis of Pulmonary Artery.—The clinical and anatomic characteristics of primary sclerosis of the pulmonary artery are described by Bacon and Apfelbach, and a report is made of one case that the authors believe is typical of this disease

Follicular Lymphadenopathy with Splenomegaly.—The occurrence of a disease characterized by widespread or generalized enlargement of the lymph nodes, superficial, deep or both, attended by splenomegaly and characterized histologically by changes marked almost exclusively by numerical and dimensional hyperplasia of the germinal follicles, Symmers says, adds a new note to the pathologic possibilities of the lymphoid system and commands consideration from the aspect of diagnosis, since the disease in question, unlike those with which it is likely to be confounded clinically, is benign from the standpoint of prognosis, and promising from that of treatment

Johns Hopkins Hospital Bulletin, Baltimore

40 265 335 (May) 1927

Inactivation of Chicken Tumor Virus by Means of Carmine M R Lewis and H B Andervont, Baltimore —p 265
Passive Transfer of Hypersensitivity L N Gay and E Chant, Baltimore —p 270
*Blood Guanidine in Tetania Parathyreopriva R H Major, T G Orr and C J Weber Kansas City, Kan —p 287
*Significance of Hydrogen Ion Concentration for Colloidal Gold Test New Method for Preparation of Colloidal Gold O Wuth and M Faupel, Baltimore —p 297
Effect of Thyroid Feeding on Spontaneous Activity of Albino Rat G H. Wang, Baltimore —p 304
Technical Difficulties Encountered in Attempt to Produce Bacterial Mutations J H Brown and M Frobisher, Jr, Baltimore —p 318

Blood Guanidine in Tetany.—In animals in which symptoms similar to those of tetany were produced by injections of guanidine compounds, Major et al demonstrated an increase in the blood guanidine by the colorimetric method Injections of guanidine compounds in doses insufficient to produce symptoms caused a demonstrable increase in the blood guanidine In five dogs suffering from tetania parathyreopriva, no increase in blood guanidine could be detected In one dog with tetania parathyreopriva, a slight increase in the color reaction occurred during one attack of tetany In a later attack in the same dog, change was not observed

Preparation of Colloidal Gold—A new method for the preparation of colloidal gold is described by Wuth and Faupel which is based on the consideration of the hydrogen ion concentration and the addition of a protective colloid It is shown that colloidal gold in "aging" becomes more alkaline and less active, and that therefore for the colloidal gold test colloidal gold should be freshly prepared

Journal of Laboratory & Clin. Med., St. Louis

12 735 836 (May) 1927

*Effect of Venous Stasis on Proteins of Blood Plasma and Sedimentation Rate of Erythrocytes E D Plass and M D Rourke, Detroit —p 735
Pathogenicity of Small Races of 'Ameba of Dysentery" R J Pickard San Diego, Calif —p 743
*Corynebacterium Ulcerans Resembling C Diphtheriae R Gilbert and F C Stewart Albany, N Y —p 756
*Relationship of Wassermann Reaction, Cells and Globulin Content and Colloidal Gold Precipitation Reaction of Spinal Fluids in Syphilitics T Thjotta and H Saethre, Oslo Norway —p 762
*Formaldehyde Sulphuric Acid Reaction of Opium Alkaloids V E Levine and E A Magiera, Omaha —p 773

*Pharmacology of Iron and Aluminum in Relation to Therapeutic Uses. H. A. McGuigan, Chicago.—p. 790
Accessory to Chambers Apparatus for Isolation of Single Bacterial Cells. W. H. Wright and E. F. McCoy, Madison, Wis.—p. 795
Tannic Acid Precipitation of Blood Proteins. M. Somogyi, St. Louis.—p. 800
Comparison of Quantitative Methods for Blood Bilirubin. H. F. Shattuck, J. A. Killian and M. Preston, New York.—p. 802
Preparation of Colloidal Gold Solution. R. A. Kilduffe and W. W. Hersohn, Atlantic City, N. J.—p. 810
Modification of Icterus Index. R. Rockwood and A. Szczypinski, Baltimore.—p. 813

Effect of Venous Stasis on Blood Proteins and Erythrocytes.—Plass and Rourke assert that prolonged venous stasis leads to blood dehydration and to an increase of plasma proteins. It is suggested that the lymph fluid has increased in protein content by diffusion of protein from the cytoplasm of the tissues which it surrounds, and that this lymph fluid, having become higher in protein than normal plasma, subsequently loses protein to the plasma, thereby increasing the total plasma proteins. The marked increase in fibrin during venous stasis points to reserve fibrin in the tissues. The sedimentation rate is increased by prolonged venous stasis, and it is suggested that the increase is probably due chiefly to increased fibrin. Care should be exercised in the use of the tourniquet or other constriction during the taking of blood on which the sedimentation rate or plasma proteins are to be determined.

Corynebacterium Ulcerans.—The micro-organism described by Gilbert and Stewart exhibits definite morphologic and cultural characteristics, some of which have been ascribed to certain micro-organisms previously reported. The name *Corynebacterium ulcerans* is proposed for this species. The first culture of *C. ulcerans* was isolated in January, 1920, from a patient who had had diphtheria the preceding October and had recovered clinically in December of that year. In subsequent cultures from this patient received in February and April, a similar bacillus was found. Since that time, thirty-six such strains from thirty-one different patients have been isolated during the course of the routine tests; in some cases, very little of the clinical history could be obtained. *Corynebacterium ulcerans* differs from the true diphtheria bacillus in some respects but is doubtless a closely related species. From the evidence of pathogenicity that the cultures manifest, it seems probable that it may be of etiologic significance in some of the inflammatory or ulcerative lesions, especially those of the nose and throat.

Effect of Syphilis Treatment on Spinal Fluid.—Thjotta and Saethre assert that the final criterion signifying that a spinal fluid in neurosyphilis has become normal during treatment must be either a negative Wassermann reaction or a colloidal gold reaction; or, better still, these two reactions occurring negative together.

Study of Opium Alkaloids.—The study made by Levine and Magiera leads to the conviction that many of the analytic procedures for organic poisons, used in toxicologic examination and offered in legal evidence, are in dire need of thorough revision and critical reevaluation.

Effect of Aluminum and Iron.—McGuigan says that as aluminum is used chiefly externally and for its astringent properties there is little likelihood of its misuse. When taken by mouth in moderate amounts, there is little danger of toxic effect because only traces are absorbed. There is no excuse for its use hypodermically, and it is only when used in this way that it is of toxic importance. While iron also is used locally as a styptic, its main use is as a hematinic. In view of the toxic effects recorded, it should not be given hypodermically unless the conditions demand it, and such an occasion is rare. Most solutions of iron are precipitated at the site of action; hence, they are highly irritant. Deep muscular injection does not lessen this effect but merely hides it. If soluble salts which do not readily cause precipitation are injected, they may be absorbed with sufficient rapidity to cause renal irritation or nephritis. In view of the toxic actions cited, and since there is no adequate evidence that the hypodermic use of iron salts is advantageous, the hypodermic method of administration of iron must be looked on as inadvisable and often harmful.

Journal of Nervous & Mental Dis., New York

65: 457-552 (May) 1927

Reflexes in Apes. G. D. Aronovitch, Leningrad, Russia.—p. 457.
Endocrine and Biochemical Studies in Schizophrenia. K. M. Bowman, Boston.—p. 465. C'td.
*Subarachnoid Hemorrhage from Medicolegal Point of View. W. Munck, Copenhagen.—p. 484.
Erotic Behavior of Idiots. H. W. Potter, Theills.—p. 497.

Subarachnoid Hemorrhage Cause of Sudden Death.—Munck shows that the isolated subarachnoid hemorrhage can be the cause of sudden death. Nine such cases are on record. In cases of this type, it is often extremely difficult to determine whether the hemorrhages are spontaneous or of traumatic origin, as the pathologic-anatomic picture in the two cases can be perfectly alike, both after rather large injuries and quite small traumatisms.

Jour. Pharmacol. & Exper. Therap., Baltimore

31: 1-85 (May) 1927

*Comparative Anesthetic Efficacy of Iso-Amylethylbarbituric Acid and Diethylbarbituric Acid. E. E. Swanson and I. H. Page, Indianapolis.—p. 1.
Phytopharmacology: Effect of Digitalis Solutions on Growth of Seedlings. D. I. Macht and J. C. Krantz, Jr., Baltimore.—p. 11.
Preparation of Colloidal Lead. F. Bischoff and N. R. Blatherwick, Santa Barbara, Calif.—p. 27.
*Pharmacologic Action of Scillaren. P. De, Cambridge, Mass.—p. 35.
Pharmacologic and Therapeutic Properties of Alpha Lobelin: On Respiratory Center. V. H. Norris and S. Weiss, Boston.—p. 43.
*Crystalline Insulin. J. J. Abel, E. M. K. Geiling, C. A. Rouiller, F. K. Bell and O. Wintersteiner, Baltimore.—p. 65.

Anesthetic Efficacy of Barbital.—The minimum fatal and effective doses of diethylbarbituric acid (barbital) and iso-amylethylbarbituric acid have been compared by Swanson and Page in a large series of cats, rabbits and rats, and the discrepancies in the literature are summarized.

Action of Scillaren.—Scillaren is an active glucoside of squilla. De has found that it exhibits slight irritant properties in the alimentary canal, though probably less than those shown by digitalis. It is absorbed from the alimentary canal, and has relatively little effect on blood pressure. It exerts a digitalis-like action on the heart.

Crystalline Insulin.—Abel et al. describe a new short method for the preparation of crystalline insulin from crude extracts of a low rabbit unitage.

Laryngoscope, St. Louis

37: 313-391 (May) 1927

Headaches Due to Eye. W. G. Gillett, Wichita, Kan.—p. 313.
Nasal Aspect of Headaches. J. C. Braswell, Tulsa, Okla.—p. 317.
Headaches of Intracranial Origin. F. R. Teachenor, Kansas City, Mo.—p. 320.
Treatment of Obstructing Inferior Turbinates. M. L. Harris, New York.—p. 325.
Conservative Treatment of Optic Nerve Disturbance from Focal Infection. L. E. White, Boston.—p. 327.
Rhinolithiasis: Two Cases. A. Lobell, New York.—p. 337.
Case of Antral Sinusitis Complicated by Radium Poisoning. F. B. Flinn, New York.—p. 341.
Mucocele of Frontal Sinus. Case. W. T. Garretson, Detroit.—p. 350.
Fracture of Outer Table of Frontal Sinus. S. Stein, New York.—p. 355.
Combined Ludwig's Angina, Agranulocytic Angina and Septicemia. V. K. Hart, Statesville, N. C.—p. 357.
Cyst of Larynx and Lobus Azygos of Lung. Case. H. C. Rosenberger, Cleveland.—p. 360.
Suppurative Labyrinthitis. Serous Meningitis: Recovery. R. T. Atkins, New York.—p. 366.
Mastoiditis with Gradenigo Syndrome: Before Operation: Following Operation. J. D. Whitham, New York.—p. 368.
Cavernous Sinus Thombosis, Associated with (1) Acute Purulent Otitis Media, (2) Mastoiditis. W. C. Bowers, New York.—p. 372.
Tuberculous Mastoiditis. T. R. Chambers, Hamilton, Bermuda.—p. 377.
Improved Hypophyscope. W. H. Barnes, Philadelphia.—p. 379.
Antrotomy Knife and New Antrum Cannula. E. M. Schwartz, New York.—p. 380.

Maine Medical Association Journal, Portland

18: 83-104 (May) 1927

Ineffectiveness of Medical Practice Acts. W. C. Woodward, Chicago.—p. 87.

Medical Journal and Record, New York

125: 585-652 (May 4) 1927

Correction of Nasal Disfigurements by Readjustment of Nasal Tissues. J. E. Sheehan, New York.—p. 585.
Cancer. XV. Predisposition. W. Meyer, New York.—p. 589.

Roentgen Rays, Radium, Endothermy and Other Physical Agents in Dermatology J J Eller, New York —p 593
Aortic Aneurysm Simulating Spontaneous Pneumothorax H I Gammons, Booneville Ark —p 595
Treatment of Hernia by Subcutaneous Injection Historical Review and Description of Author's Method I Mayer, Detroit —p 596
Metabolic Aspects of Infectious Diseases L Berman New York —p 598
Diseased Mastoid as Source of Local Infection H Dintenfass, Philadelphia —p 600
Modification in Technic of Roentgen Ray Examinations of Gastro Intestinal Tract J F Montague, New York —p 602
Alleged Mental Abnormality in Pulmonary Tuberculosis S A Knopf, New York —p 604
Electric Breast Pump F M Tari, Los Angeles —p 607
Clinical Value of Celluloid Capsule J Buckstein —p 610
Importance of Transference in Child Hygiene J H Cassity, Washington, D C —p 611
Medical Phases of Child Behavior I S Wile, New York —p 613
Chest Examination in Infants and Children J H Marcus, Atlantic City, N J —p 618
Structural and Functional Predisposition to Disease A Hymanson, New York —p 620
Growing Tendency Among Modern Mothers to Feed Their Babies Artificially C L Larkin Waterbury, Conn —p 624
Incidence of Rachitis in Breast Fed Infants C I Macke, Baltimore —p 625
Pepys and Plague W C Rucker, New Orleans —p 627

Minnesota Medicine, St. Paul

10 · 267 340 (May) 1927

Prognosis in Heart Disease Coronary Disease F A Willius, Rochester, Minn —p 267
Retroperitoneal Lipoma Three Cases C H Mayo and C F Dixon, Rochester, Minn —p 272
*Zinc Stearate Insufflation F D Anderson and E H Hilbert, Minneapolis —p 276
Significance of Certain Signs and Symptoms in Cases of Surgical Mastoiditis H I Lillie, Rochester, Minn —p 280
Evolution of Nephritis III H O Altnow, Minneapolis —p 283
*Multiple Perforated Gastric Ulcers J C Masson and H E Simon, Rochester, Minn —p 289
Hospital Library Service R O Beard, Minneapolis —p 295

Zinc Stearate Insufflation —Eight cases of zinc stearate aspiration are reported by Anderson and Hilbert In many instances only the larynx is involved, the cases are not fatal and are of rather short duration If the zinc stearate reaches the bronchi, it causes a severe bronchitis which may develop into a bronchopneumonia If the powder reaches the lung tissue, it may cause a severe bronchopneumonia The symptoms arising from zinc stearate aspiration are probably due to both the mechanical and the toxic effects of the powder

Multiple Perforated Gastric Ulcers —Masson and Simon review thirty-two cases of multiple gastric ulcers reported in the literature, and report one case from the Mayo Clinic

New Orleans Medical and Surgical Journal

79 · 797 876 (May) 1927

Altruism of Organized Medicine S M Blackshear, New Orleans —p 797
Relation of Reticulo Endothelial System to Splenomegalies Associated with Nonspecific or Secondary Anemia A O Whipple, New York —p 800
Nonspecific Upper Respiratory Infection in Children W R Graves, Memphis, Tenn —p 826
Complications Incident to Operative Treatment of Inflammatory Diseases of Gallbladder A P Heineck, Chicago —p 830
*Intestinal Complications of Pulmonary Tuberculosis J O Lisenby, New Orleans —p 840
Use of Lipiodol in Bronchi P H Jones, Jr, and C Jamison, New Orleans —p 844

Intestinal Complications of Pulmonary Tuberculosis —Lisenby analyzed 264 autopsies done in cases of pulmonary tuberculosis *Intestinal complications were found least often* in white males Only twenty cases, or 21 per cent, showed intestinal complications, while of the 172 colored patients, sixty-three, or 23 per cent, showed intestinal complications

Ohio State Medical Journal, Columbus

23 351 446 (May) 1927

Surgical Treatment of Gastric and Duodenal Ulcers M E Blahd, Cleveland —p 371
Roentgen Ray in Treatment of Skin Disease Acne Vulgaris J E. Fisher, Cleveland —p 374
Incidence of Temperature Elevation in Puerperium J L Reycraft, Cleveland —p 378
Kahn Test in Diagnosis of Syphilis F Berry, Columbus —p 381

Oklahoma State Med. Assoc. Journal, Muskogee

20: 86 116 (April) 1927

Ablatio Placentae F O Barker, Guthrie —p 86
Conduct of Average Obstetric Case C R Hannah Dallas Texas —p 88
Treatment of Pelvic Infection A C Hirschfield Oklahoma City —p 92
Puerperal Eclampsia D F Stough, Geary —p 94
Roentgen Ray Study of Nasal Accessory Sinuses E C Wilson, Oklahoma City —p 95
Fractures of Femur H D Murdock, Tulsa —p 97
Fractures of Elbow Joint I N Tucker, Tulsa —p 99

20. 117 160 (May) 1927

Where Do We Belong in Scheme of Things? I C Williams Pawhuska —p 121
History and Progress of Gynecology A W Pigford, Tulsa —p 123
Cavernositis F E Warterfield Muskogee —p 126
Obstruction in Upper Third of Nose in Childhood C H Haralson, Tulsa —p 129
Protecting Child's Health C V Rice Muskogee —p 130

Philippine Islands Med. Assoc. Journal, Manila

7: 109 142 (April) 1927

*Negative Lepers I Persistence of Bacilli in Deep Foci E V Pineda, Culion P I —p 109
*Id II Nasal Lesions H W Wade and F Solis Culion, P I —p 111
*Id III Relapses H W Wade and C B Lara Culion, P I —p 115
Factors in Treponematous Infection That Influence Result of Wassermann Reaction O Schobl, Manila, P I —p 122

Negative Lepers —The fact that ten out of eleven cases on the negative list were found bacteriologically positive at autopsy *in smears from deeper organs, and that in nine out* of fifty-three cases smears of material aspirated from the femoral lymph nodes were positive, Pineda says, is in accord with the generally recognized fact that lepers are not necessarily bacillus-free when they become negative by ordinary methods of examination The skin and, apparently, the spleen and the liver become negative comparatively early, while in other sites, especially the nerves, lymph nodes and testes, the infection tends to persist for a relatively long time

Nasal Lesions in Leprosy —Special attention is called by Wade and Solis to the importance of examining the nasal mucosa in cases becoming or having become negative under treatment Of 600 first examinations of negative candidates, in which both skin and nasal mucosa were tested, 152 were postive from the nasal mucosa and twenty seven were positive from this region only Of 570 negative or nearly negative patients, fifty-five were positive from the septum Of them twenty-nine were positive only from the septum

Relapses in Negative Lepers —Data on supposed relapses in negative cases at the Culion Leper Colony are given by Wade and Lara Of 508 persons on the negative list, seventy-five (15 per cent) had suffered interruption because later they were found bacteriologically positive Of sixty-four of these, 55 per cent did not show clinical evidence of reactivation

Physical Therapeutics, Baltimore

45 · 221 262 (May) 1927

Treatment of Fibroids and Abnormal Uterine Bleeding Due to Benign Diseases with Radium and Roentgen Rays J T Stevens, Montclair, N J —p 221
Radium and Cancer of Cervix Uteri F de Courmelles, Paris —p 230
Roentgen Rays in Treatment of Pyorrhea Alveolaris M A Lyons, New York —p 235
Thymoma T H Plank San Francisco —p 240
Medical Act of Canada and Canadian Electrotherapeutic Association S Lafortune, Montreal —p 243
Progress in Phototherapy and Apparatus F T Woodbury, New York —p 245
Clinical Experiences with Diathermy J Hunter, Toronto —p 254

Public Health Journal, Toronto

18. *151 200 (April) 1927*

Pure Milk Supply for Farm Home R G Ferguson —p 151
Montreal Antituberculosis and General Health League A G Fleming —p 156
Antisyphilitic Pharmacopeia of Fracastorius W R Riddell —p 171
Mother's Duty to State A M Plumptre —p 178
Sanitation and Public Health Laboratory A J Slack —p 182

18: 201 250 (May) 1927

Diphtheria Toxoid as Immunizing Agent J G FitzGerald —p 201
Antenatal Clinics in England and France R George —p 210
Economics of World Health L I Dublin —p 216
Antisyphilitic Pharmacopeia of Fracastorius W R Riddell —p 226
Evolution of Knowledge of Diphtheria C J Hastings —p 231
Improvement of Health in Rural Municipalities J W S McCullough —p 255

Public Health Reports, Washington, D. C.

42 1097 1150 (April 22) 1927

Water Supplies on Canadian Great Lakes Vessels G H Ferguson, Fort Qu Appelle, Sask —p 1097
Screening Studies in Leflore County, Miss C P Coogle Greenwood, Miss —p 1101

42: 1151 1215 (April 29) 1927

Pasteurization Its Enforcement L C Frank, F J Moss and P E LeFevre Washington D C—p 1152
Extent of Rural Health Service in United States 1923 1927 L L Lumsden, Washington, D C—p 1163

42 1217 1297 (May 6) 1927

Typhoid Epidemic in Grafton West Virginia During Winter of 1926 1927 E S Tisdale —p 1217
Resume of Literature Relating to Pos [illegible] L Schwartz Washington, D C—p 1219

42 1299 1353 (May 13) 1927

*Pellagra Preventive Action of Tomato Carrot and Rutabaga Turnip J Goldberger Washington D C and G Wheeler Milledgeville, Ga —p 1299
*Nontuberculous Granulomatous Lymphadenitis in Mississippi M A Barber Memphis Tenn and C P Coogle Greenwood Miss —p 1306

Tomatoes Prevent Pellagra —Goldberger and Wheeler found tomatoes to be effective as pellagra preventives while both carrots and rutabagas seem to lack this property The idea suggested by the work of Underhill and Mendel on the Chittenden and Underhill syndrome (black tongue) in dogs, that carrots might be highly potent pellagra preventives does not seem to be borne out by the results of this study Carrots contain the black tongue preventive factor but in relatively small amounts They recommend the use of tomatoes in the treatment of active cases in which it may be administered in the fresh raw state in the form of the juice or as a soup The daily quantity should be as liberal a one as is permitted by the digestive condition of the patient A liter (1 quart) a day of the juice is not too much In endemic localities a more liberal use of tomatoes than now obtains, particularly during the late winter and spring may well be encouraged as a measure tending to the prevention of the disease

Nontuberculous Granulomatous Lymphadenitis —Five, possibly seven cases apparently of nontuberculous granulomatous lymphadenitis were found by Barber and Coogle in Mississippi during the autumn or early winter of 1925 All were found in the same neighborhood within a radius of perhaps 5 miles Precise evidence of the origin of the infection could not be obtained There was no history in any of the cases of recent residence outside of Mississippi Extirpation of the diseased glands, or drainage alone was followed by recovery

Radiology, St. Paul

8 369 460 (May) 1927

Use of Roentgen Rays in Study of Physiology W J Meek Madison, Wis —p 369
Teaching Roentgenology to Undergraduates E S Blaine Chicago —p 374
Postgraduate Instruction in Roentgenology P M Hickey Ann Arbor, Mich —p 379
Use of Radiology in Teaching Anatomy C R Bardeen Madison, Wis —p 384
Studies in Physics of Roentgen Rays for Medical Students G A Lindsay Ann Arbor Mich —p 387
Undergraduate Instruction in Roentgenology J J Clark Atlanta Ga —p 394
Developmental Study of Nasal Accessory Sinuses W W Wasson, Denver —p 398
Bone Diseases in Infants and Children P Lewin and E L Jenkinson, Chicago —p 409
Radium in Treatment of Mammary Carcinoma J Muir, New York —p 416
Normal Pyelograms Value of Bilateral Simultaneous Pyelography D N Eisendrath and R A Arens, Chicago —p 422
Physical Characteristics and Physiologic Effects of High Frequency Currents A Mutscheller, New York —p 427
Examination of Mastoids by Using Serial Plate Changer S W Donaldson Ann Arbor, Mich —p 437
Easy Method for Making Surface Casts to Hold Radium Tubes in Position W H Cameron Pittsburgh —p 438
Mediastinal Teratoma Case H W Grimm Pittsburgh —p 438
Method for Knowing Face of Plate Taken in Cassette T D Cantrell, Bloomington, Ill —p 439

Society Exper. Biol. & Med. Proc., New York

24: 627 732 (April) 1927

*Secondary or Compensatory Hypoglycemia V E Levine, Omaha —p 627
*Influence of Thyroid on Experimental Rickets M M Kunde and L A Williams, Chicago —p 631
Microbic Dissociation Tubercle Bacillus S A Petroff —p 632
Bacteriophage Active Against Virulent Hemolytic Streptococcus P F Clark and A S Clark Madison, Wis —p 635
Improved Colorimetric Method for Determining Quantitatively Indophenol Oxidase Content of Animal Tissues J A Dye, Ithaca N Y —p 640
Indophenol Oxidase Content of Normal and Scorbutic Guinea Pig's Tissues J A Dye and R A Waggener, Ithaca N Y —p 643
Action of Bacteriophage on Low Temperature Bacterium A L Elder and F W Tanner —p 645
Preserving Supravital Staining with Neutral Red in Paraffin Sections of Lung L U Gardner, Saranac Lake N Y —p 646
Phytophysiologic Examination of Hemophilic Blood D I Macht and G D Rowe Baltimore —p 649
Nonsensitizing Protein Antigens W H Manwaring, H D Marino, T C McCleave and T H Boone San Francisco —p 650
Erythrocyte Anaphylaxis in Dogs W H Manwaring H D Marino and T H Boone San Francisco —p 651
Effect on Electrocardiogram of Opening Thorax and Inserting Optical Manometers into Aorta and Pulmonary Artery L N Katz, Cleveland —p 652
*Experimental Thrombosis T Shionoya, W R Johnson and L G Rowntree Rochester, Minn —p 655
*Effect of Iodine on Heat Production D Marine, M Deutch and A Cipra New York —p 657
Effect of Ergotamine Tartrate on Heat Production of Normal and Thyroidectomized Rabbits D Marine M Deutch and A Cipra, New York —p 662
*Feeding Certain Liver Constituents in Pernicious Anemia R West, New York —p 665
*Metabolism of Acetic Acid in Phlorhizin Diabetes A. T Milhorat and H J Deuel Jr New York —p 667
pH Concentration of Intestinal Contents of Dog Inorganic Metabolism D M Grayzel and I G Miller, Jr, New York —p 668
Biochemical Studies of Human Semen and Mucin of Cervix Uteri I K Kurzrok and F G Miller, Jr, New York —p 670
Weight of Mouse Embryos Ten to Eighteen Days After Conception Logarithmic Function of Embryo Age E C MacDowell and F Allen, New York —p 672
*Pathogenic Anaerobic Bacillus Not Hitherto Described Cultured from Fatal Operative Wound Infection F L Meleney, F B Humphreys and L Carp New York —p 675
*General and Local Heat Developed in Living Animal Body by Passage of High Frequency Currents C A L Binger and R V Christie, New York —p 677
Certain Isolated Loops in Intestinal Obstruction H B Eisberg, New York —p 683
Simple Respirometer for Microbial Respiration F B McKinley and C B Coulter New York —p 685
Influence of Vegetative Nerves on Distribution of Arsenic After Arsphenamine Injections E F Muller, C N Myers and E Marples New York —p 689
Influence of Organic Salts on Action of Tyrosinase K Landsteiner and J van der Scheer New York —p 692
Heterogenetic Haptene K Landsteiner and P A Levene, New York —p 693
Mononuclear Cells of Blood in Relation to Clinical Findings in Tuberculosis R S Cunningham and E H Tompkins, Nashville —p 697
Oral Immunization of Rats Against Pneumococcus Types 2 and 3 V Ross, Bloomfield N J —p 697
Effect of Instillations of Ephedrine Solution on Eye H J Howard and T P Lee Peking —p 700
Blood Changes Following Injections of Typhoid Paratyphoid Vaccine H J Howard and C A Mills Peking —p 703
Uricase Not Present in Soy Beans S M Ling Peking —p 704
Denaturation of Hemoglobin H Wu and K H Lin, Peking —p 705
*Role of Platelets in Blood Clotting C A Mills, Peking —p 707.
Poisoning by Sikimitoxin T Q Chou, Peking —p 708
Type Specific Pneumococco Opsonins in Serums of Animals Naturally Resistant to Pneumococcus Infection R H P Sia, Peking —p 709
Determination of Guanidine Bases in Blood C J Weber, Lawrence, Kan —p 712
Iso Electric Point and Median Minimum of Growth C H Farr, St Louis —p 715
Method for Study of Formation of Amino Acids in Animal Organism W H Griffith St Louis —p 717
Sympathetic and Parasympathetic Responses After Intradermal and Intracorneal Injections H L White and J Rabinovitch, St Louis —p 717.
*Action of Mineral Oil per Os on Organism M T Burrows and W K Farr St Louis —p 719
Fatty Infiltration of Liver Induced by Lipoid Solvents L H Iorstad, St Louis —p 723
*Contractures Caused by Tenotomy and by Tetanus Toxin. S W Ranson and H H Dixon St Louis —p 725
*Injections of Caffeine and Epinephrine and Subsequently Staphylococcus Aureus Suspensions on Myocardium and Endocardium S Johnson and W J Siebert St Louis —p 726
*Effect of Follicular Extract on Generative Organs of Hysterectomized Guinea Pigs L Loeb and W B Kountz, St Louis —p 728
Animal Passage Hypoglycemia J B Collip, Edmonton, Ala —p 731

Secondary Hypoglycemia —It is suggested by Levine that in all conditions in which a secondary hypoglycemia is apt to occur, dextrose or preferably dextrose and insulin, should be administered as a therapeutic measure Such procedure should be followed to prevent the symptoms of postanesthetic or postpartum hypoglycemia and in poisoning or overdoses of such drugs as morphine or strychnine

Influence of Thyroid on Experimental Rickets.—The work done by Kunde and Williams demonstrates the necessity of the presence of thyroid hormone for the complete utilization of cod liver oil.

Experimental Thrombosis.—The apparatus used by Shionoya et al. is composed of an arterial and a venous cannula connected peripherally by a transparent, semipermeable collodion tube, the whole forming a U-shaped system. The cannulas are inserted into the carotid artery and jugular vein of a rabbit after the apparatus is filled with physiologic sodium chloride solution, and the membrane portion rests in a similar saline solution. When circulation is established, the blood flows through the system and back to the animal without contact with air. The influence of many factors on the rate and type of thrombosis may be determined by means of this device.

Effect of Iodine on Heat Production.—Two rabbits studied by Marine et al. which received eight daily doses of 0.075 cc. compound solution of iodine showed a rise in heat production, beginning about the fifth day and continuing until the solution was stopped, after which it returned to normal in a few days.

Feeding Soluble Fractions of Beef Liver in Pernicious Anemia.—The alcohol-ether soluble fractions of fresh beef liver were used by West in five consecutive cases of pernicious anemia. Improvement was noted in each case.

Fat Not Transformed into Glucose.—The conclusion is reached by Milhorat and Deuel that acetic acid is not convertible into glucose nor largely excreted as such by a phlorhizinized dog. It must be largely oxidized. The hypothesis that fat may be transformed into glucose, based on such evidence, is, therefore, not valid.

Clostridium Oedematoides in Wound Infection.—All anaerobic bacillus has been cultivated by Meleney et al. from the lesion in a fatal human operative wound infection and from catgut. It is pathogenic in small doses for eight different species of laboratory animals. It produces a lesion in these animals resembling somewhat the lesions produced by *B. oedematiens* and *Vibrion septique*. It differs from these organisms strikingly in certain of its cultural characteristics. Serologically, it has been demonstrated to be distinct from both of these. The name proposed for this new species is *Clostridium oedematoides*.

Heat Developed by High Frequency Currents.—Experiments made by Binger and Christie indicate that the efficiency of the local circulation determines whether the heat produced by the passage of high frequency currents through the living animal will remain localized or be disseminated uniformly throughout the body.

Rôle of Platelets in Blood Clotting.—Mills states that platelets do not contain thrombin or prothrombin, but do contain free cephalin and tissue fibrinogen, and are thus similar to other body tissues.

Action of Mineral Oils on Organism.—It is held by Burrows and Farr that the mineral oils, quite different from the vegetable oils, not only remove the fat soluble vitamins from the food, but produce other toxic effects as well. From studies made of the effects of these oils on the tissues and in the production of cancer, it may be assumed that their toxic effect is due to the fact that they act on the mucous membrane of the intestines to strip these tissues of the body further of their fat soluble vitamin reserve.

Action of Tetanus Toxin on Muscle.—Ranson and Dixon state that tetanus toxin also exerts a direct action on muscle, causing a shortening and increased resistance to permanent elongation when injected after section of the motor nerve.

Experimental Myocarditis.—Johnson and Siebert concluded that the myocardial lesion in the rabbit produced by the injection of epinephrine and caffeine influences the localization of abscesses caused by the intravenous injection of staphylococcus cultures, and that under certain conditions these myocardial lesions may also increase the number of abscesses.

Mechanism and Regulation of Sexual Cycle.—These investigations substantiate the interpretation of the mechanism of the sexual cycle given by Loeb and Kountz previously as to the existence of two different phases in the cycle; they also confirm their conclusions that in the regulation of the sexual cycle they do not have to deal with one single generative hormone residing in the follicles, but with the complex interaction of at least two and probably an even larger number of substances derived from corpus luteum as well as from follicles.

Southern Medical Journal, Birmingham, Ala.

20: 335-420 (May) 1927

*Occult Blood in Stools. J. Friedenwald and T. H. Morrison, Baltimore.—p. 335.
Effect of Trauma on Female Generative Apparatus. L. E. Burch, Nashville, Tenn.—p. 339.
*Treatment of Diabetic Coma. A. H. Bunce, Atlanta, Ga.—p. 341.
Casual and Unexpected Cures of Supposedly Incurable Skin Diseases. E. A. Blount, Dallas, Texas.—p. 342.
Treatment of Vaginal Hernia Associated with Prolapsus Uteri. J. M. Hundley, Jr., Baltimore.—p. 345.
*Kinesthetic Function of Precentral Convolution. C. E. Dowman, Atlanta, Ga.—p. 348.
Infant Feeding and Nutrition. M. Marriott, St. Louis.—p. 352.
Heart Load. N. S. Stern, Memphis, Tenn.—p. 355.
Interrelationships of Psychiatry and Surgery. W. S. Bainbridge, New York.—p. 357.
Vascular Factor in Appendicitis. G. S. Graham, Birmingham.—p. 365.
Relation of Hypothyroidism to Obstetrics and Gynecology. C. D. O'Keefe, St. Louis.—p. 375.
Etiology and Treatment of Spastic Colon. W. G. Morgan, Washington, D. C.—p. 380.
Advantages and Dangers of Perineal Prostatectomy. B. A. Hayes, Oklahoma City.—p. 383.
Economic Considerations Influencing Local Health Organizations. E. L. Bishop, Nashville, Tenn.—p. 389.
Experience with Anesthetics and Illustration of Method Employed. E. H. Cary, Dallas, Texas.—p. 393.
Industrial Eye Injuries. J. B. Stanford, Memphis, Tenn.—p. 398.
Historical Review of Early Dermatology. J. M. King, Nashville, Tenn.—p. 402.

Occult Blood in Stools.—The presence of occult blood in the stools is regarded by Friedenwald and Morrison as being of great value as an aid in the diagnosis of simple ulcerative lesions, as well as in malignant disease of the gastro-intestinal tract. While this condition occurs, however, in other diseases, it need not necessarily add great difficulty in the diagnosis, as the clinical manifestations in most instances will point to the correct condition. Occult blood is usually noted in peptic ulcer, especially if frequent examinations are made, and usually at the time of the exacerbation of the symptoms, disappearing when these abate. The healing of an ulcer is indicated by a diminution in, and finally an absence of, occult blood in the stools. Occult blood is not always observed in the stools in cancer of the gastro-intestinal tract in its early stages. It occurs, however, as soon as ulceration takes place, and then persists throughout the course of the disease.

Treatment of Diabetic Coma.—Bunce shows that the grave complication of diabetic coma may be handled successfully by any practicing physician with a minimum of laboratory equipment and experience. It is important to get to the patient as early as possible and to stay with him. The patient should be catheterized at hourly intervals. External heat should be applied, and the bowels cleansed with an enema immediately. The stomach should be washed and castor oil left in it. Croton oil may be necessary occasionally. Forced fluids, such as water, orange juice, hot clear broth, are indicated. Insulin is given at hourly intervals, more frequently if necessary, until the sugar begins to decrease in the urine. Then the dosage is decreased rapidly to avoid letting the patient come out of coma into insulin shock. Blood sugar determinations at frequent intervals are helpful, and should be made if possible. Other laboratory procedures are helpful, but not essential. The diet is resumed cautiously and relapse is watched for.

Kinesthetic Function of Precentral Convolution.—Four cases are reported by Dowman in which an area in front of the rolandic fissure was coagulated by injection of 95 per cent alcohol. In each case there was an immediate impairment of the kinesthetic sense, showing that the so-called kinesthetic sense is represented in front of as well as behind the rolandic fissure. The precentral gyrus, therefore, is sensory-motor and not purely motor in function.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

Archives of Disease in Childhood, London

2 71 145 (April) 1927

*Bronchiectasis in Childhood L Findlay and S Graham —p 71
*Pyelitis in Infancy B Chown —p 97
*Leukemia in Infancy and Early Life G W S C Ramsay —p 119
*Indirect Determination of p_H of Blood in Children S Graham and N Morris —p 138

Bronchiectasis in Childhood —Of the twenty three patients considered by Findlay and Graham nine died two from septic pneumonia one of whom had in addition early tuberculosis, one from hemoptysis one from multiple cerebral abscesses one from tuberculous meningitis and four as a result of operation One patient died during the operation for pneumectomy, one two days after the same operation from hemorrhage through the slipping of the ligature at the root of the lung and two some time after the fixation of the lung to the thoracic wall and the incision of the cavities for drainage

Pyelitis in Infancy —Chown regards the term pyelitis of infancy as a misnomer The common lesion is a multiple, focal, suppurative interstitial nephritis with which is associated occasionally some degree of pyelitis, and rarely cystitis The lesion is usually bilateral but when it is unilateral it is more often right sided than left sided Rarely the lesion found is an acute glomerulitis or a cystitis Pyelitis as a sole lesion seldom if ever, occurs The commonly associated bacterium is probably *Bacillus coli* The renal lesions are usually secondary to an inflammatory process elsewhere

Leukemia in Infancy —An analysis is made by Ramsay of the clinical features of 100 cases of leukemia occurring in children under 8 years of age It is shown that the symptomatology of all three varieties of the disease is more or less the same, and that the commonest features are enlargement of the spleen, lymphatic glands and liver, along with some degree of fever and various forms of hemorrhage The disease runs an acute course and the patient rarely lives more than two months after the diagnosis has been made The blood picture shows a marked degree of anemia and a leukocytosis in all forms of the disease The leukocytosis is highest in lymphocytic leukemia and lowest in lymphoidocytic leukemia although in either of these varieties an actual leukopenia may be present Nineteen cases of myelocytic leukemia are analyzed and it is shown that, in addition to a very high myelocyte count, there is also a large absolute lymphocytosis

Determination of Blood Carbon Dioxide Tension —An indirect method of determining the carbon dioxide tension of arterial blood in children by means of air injected into the rectum is described by Graham and Morris The method is inapplicable in children under 2 years of age A method of determination of the p_H of the blood by means of Hasselbalch's formula is outlined and some results are reported The p_H of the blood calculated by this method varies in normal children over 2 years from 7 32 to 7 50

British Journal of Surgery, Bristol

14 557 716 (April) 1927

Gamgee s Tissue D'Arcy Power —p 557
*Surgical Treatment of 'De Gloved' Hand G H Colt —p 560
*Reconstruction of Internal Ligaments of Knee Joint Eleven Cases M Horan —p 569
Intestinal Sac at Site of Meckel s Diverticulum F J Jauch —p 576
Intussusception of Appendix G P B Huddy —p 580
*Chemical Changes Associated with Gallstones Relation Between Gallstones and Hypercholesterolemia F S Fowweather and G A Collinson —p 583
Intrathoracic New Growths Seven Cases A T Edwards —p 607.
Solitary Cysts of Kidney A Fullerton —p 629
*Bone Changes in Renal Rickets E P Brockman —p 634
Case of B Welchii Cholecystitis E P Gould and L E H Whitby —p 646
Fractures of Malar Zygomatic Compound New Roentgen Ray Position H D Gillies T P Kilner and D Stone —p 651
Case of Albers Schonberg s Disease H R Sear —p 657
Two Cases of Carcinoma of Colon with Extension E R Flint —p 661
Pyloric Obstruction in Infant from Pressure of Distended Gallbladder H H Greenwood —p 663
Primary Carcinoma of Appendix G B Woodd Walker —p 665
Hydatid Disease of Kidney E T Willans and M G Stewart —p 667.
Aneurysm of Femoral Artery with Pott's Disease of Spine F P. Brockman —p 669
Case of Lumbar Hernia H Edwards —p 672
Anatomic and Functional Reproduction of Metacarpal by Bone Graft A Fowler —p 675
Radium Carcinoma of Thumb C P G Wakeley —p 677
Foreign Bodies in Ileal (Meckel's) Diverticulum Formation of Pedunculated Cyst Which Strangulated Loop of Small Intestine H Miller —p 678

Treatment of "Degloved" Hand.—Two cases are described by Colt to illustrate how fingers that have been completely skinned may be saved by a primary plastic operation

Reconstruction of Internal Ligaments of Knee Joint.—Reconstruction of the anterior crucial and internal lateral ligaments of the knee joint from fascia lata has been performed by Horan in eleven cases of tearing or stretching of these ligaments The operation results in a joint capable of withstanding the stress and strain to which it is subjected in the course of ordinary, average life

Relations Between Gallstones and Cholesterol.—Of seventy-five cases of gallstones in which the blood cholesterol was determined by Fowweather and Collinson, thirty-five (467 per cent) showed definitely raised values, while eight (107 per cent) showed high normal values In only four were there low normal values, and no case gave values less than 0 11 per cent Out of fifty-eight cases in which the blood calcium was determined, nineteen (328 per cent) showed definitely raised values, while five (86 per cent) showed high normal values In only two cases were there low normal values, while a case in which jaundice was present when the specimen was taken for analysis gave a definitely low value Eleven of the nineteen cases showing raised blood calcium occurred among the thirty-five patients with raised blood cholesterol, while the remaining eight occurred among the thirty-six patients with a normal or high normal blood cholesterol

Bone Changes in Renal Rickets —Comparing the changes found in renal rickets with rickets and the normal bone, Brockman says that the shafts of the bones in renal rickets are straight, and the deformities when they develop are not, as in rickets, due to an increase of the normal curve, but are the result of the separation and displacement of the epiphyses This displacement is seen most markedly at the lower ends of the femur, tibia, radius and ulna The red marrow is replaced by a fat marrow, more advanced in some bones than in others There is very little bone formation There is active bone absorption by osteoclasts both in the neighborhood of the growth disk and also of the shaft of the bone beneath the periosteum The absorbed bone is replaced by fibrous tissue In rickets there is a quantity of fibrous tissue laid down among the trabeculae of bone which have been formed, but in renal rickets it is very much increased in extent Thickening of the walls of the arteries in the medulla takes place, with degeneration of the endothelial cells lining them There is an increase in the number of capillaries in the region of the growth disk as compared both with the number seen in normal persons and in rickets

British Medical Journal, London

1 783 822 (April 30) 1927

*Asthma in Childhood R Hutchison —p 783
*Infantile Paralysis A R Jones —p 785
*Treatment of Congenital Spastic Paraplegia by Sympathetic Ramisection. N D Royle —p 787
Vascular Diseases and Sympathetic System H A Harris —p 789
*Intravenous Therapy H Pritchard —p 792
*Treatment of Rodent Ulcer by Trichloracetic Acid H Leslie Roberts —p 794
Hemostatic Clamp as Aid in Dissection of Tonsils L G Brown —p 795
*Late Results of Chronic Gastric Ulcer Treated Medically L Forman —p 796
*Rupture of Rectus Abdominis Muscle P J Moir —p 796
*Id Simulating Appendicitis C R McCash —p 797
Pulmonary Embolism Following Childbirth, Recovery M Hallam —p 797

Asthma in Childhood —Hutchison says that the possibility of recovery for the asthmatic child is much greater than one would suppose In a large proportion the attacks either cease altogether or become few and slight, although in cases in which the disease has lasted several years there may be some emphysema and some stunting of growth and development.

Prevention of Infantile Paralysis.—Jones states that the virus is present in the mucous membrane of the nasopharynx of infected persons, and therefore persons in contact with the disease should cleanse their throats by gargling three times a day with a 1:4,000 solution of potassium permanganate.

Sympathetic Ramisection for Spastic Paraplegia.—Royle reports the effect of sympathetic ramisection in twenty-six consecutive cases of spastic paraplegia. The operation was carried out in all cases on both lower limbs. The cases were of the rigid type, except one of the choreic type. As regards walking, there was a diminution of the disability in all patients except one, who was able to walk before the operation. Sixteen were unable to walk alone, and of these, fourteen learned to walk within six months. In some cases the improvement was remarkable. Another notable effect of the operation was the relief from the necessity for mechanical support; and the ability to walk increasing distances without fatigue is a constant postoperative result. All the patients exhibited changes which can be ascribed only to altered tone. The faculty of balance or of increased facility in balance is an invariable immediate postoperative effect, and accounts for the rapidity with which these patients learn to walk. Almost every patient reported increased facility in performing active movements. Another important acquisition is the power of inhibition.

Intravenous Therapy.—In Pritchard's opinion the intravenous route has much to recommend it. By whatever channel drugs are given, they must ultimately reach the circulating blood. Therefore, it would appear to be only logical to put them straight into the blood stream. But intravenous medication demands careful handling and, in using it, one may better err on the side of caution.

Rodent Ulcers; Trichloracetic Acid Treatment.—Leslie-Roberts says that the superiority of trichloracetic acid in the treatment of rodent ulcer lies in the fact that its action leads to complete coagulation of the cell contents. The compounds formed between the acid and the cell contents are nonhydrophil, and therefore do not tend to draw lymph out of the capillaries. Thus the acid converts the neoplasm into a solid block of dead tissue, which is gradually thrust out by the undergrowth of the healthy living cell of the epidermis.

Treatment of Gastric Ulcers.—The impression that the chances of the successful treatment of a gastric ulcer with a long history are poorer than in one of short duration does not receive support from Forman. Ulcers of the cardia, he asserts, give a good result with medical treatment.

Rupture of Abdominal Rectus.—Moir's patient was an acrobat. Half the transverse extent of the muscle was torn. The divided muscle was united with stout catgut applied as mattress sutures. The patient made an uninterrupted recovery.

Id.: Simulating Appendicitis.—While reaching up to a jar from a shelf, McCash's patient felt a sharp pain in the right iliac region. The abdomen presented slight resistance in the lower half of the right rectus muscle and slight deep tenderness, with its maximum 1 inch above and internal to McBurney's point. A tumor was not palpable. A diagnosis of subacute appendicitis was made, and the abdomen was opened by a right paramedial incision. The rectus sheath was bloodstained, and on opening it the middle third of the muscle was found to be ruptured about 1½ inches below the umbilicus. The appendix was normal in every way. The ends of the ruptured muscle were approximated. Apart from the extrusion of a catgut suture, the patient made an uneventful recovery, and was discharged with a firm scar in sixteen days.

Heart, London

14: 1-109 (April 20) 1927

Influence of Cutaneous Nerves on Reactions of Cutaneous Vessels. T. Lewis, K. E. Harris and R. T. Grant.—p. 1.

*Vascular Reactions of Skin to Injury: IX. T. Lewis and I. M. Harmer. —p. 19.

*Vasodilatation Arising from Antidromic Impulses, to Herpes Zoster and Trophic Effects. T. Lewis and H. M. Marvin.—p. 27.

*Temperature of Venous Blood: Use in Estimating Rate of Blood Flow to Hand. K. E. Harris and H. M. Marvin.—p. 49.

*Rate at Which Edema Forms When Veins of Human Limb are Congested. A. N. Drury and N. W. Jones.—p. 55.

*Electrical Field Surrounding Active Heart Muscle. W. H. Craib.—p. 71.

Vascular Reactions of Skin to Injury.—Observations made by Lewis and Harmer supply further and direct evidence that in urticaria factitia a substance having a histamine-like action is released in the skin and gradually passes into the general circulation, there to act generally. The amount of substance released when the trunk is extensively whealed is calculated to be equivalent to about 0.1 mg. of histamine base. One third of this quantity of histamine base, introduced subcutaneously, yields a recognizable general reaction. The concentration of the released substance in wheal fluid is calculated, in terms of histamine, to be about 1 in 1,500,000, agreeing closely with previous determinations by other methods.

Vasodilatation Arising From Antidromic Impulses.—Lewis and Marvin state that when the skin presents a reaction consisting of local reddening, whealing and a widespread flare, or when it presents local reddening associated with blistering, the vascular reactions of the skin are the result of the release of a histamine-like substance in situ; this conclusion is intended to cover all such reactions, irrespective of their remote causes. Antidromic impulses passing along sensory nerves cause vasodilatation by releasing a vasodilator substance from the tissues which the sensory nerve supplies. Nervous impulses are capable of influencing the sizes of peripheral vessels in one of two distinct ways; namely, by a direct or relatively direct action, and by an indirect action in which a released vasodilator substance is the immediate cause of vasodilatation. Herpes zoster is due to antidromic impulses passing down the sensory nerves and releasing in the skin substances of a histamine-like nature. It is suggested that antidromic impulses are concerned in controlling metabolic or secretory activities of tissues supplied by them, and that trophic lesions, so called, are due to disturbances of this control.

Temperature of Venous Blood.—Observations on the temperature of venous blood in situ by means of a thermo-electric junction are recorded by Harris and Marvin. The temperature of venous blood, when the hand is at rest, room temperature being between 20.8 and 24.4 C., assumes a level between 34.3 and 35.8 C. When a water bath between 26 and 32 C. is used, the average difference between the temperatures of the bath and the venous blood in the hand is 1.84 after fifteen minutes and 1.31 C. after thirty minutes immersion.

Rate at Which Edema Forms.—Edema has been produced by Drury and Jones in the leg of healthy subjects by raising the venous pressure in the limb. The increase in leg volume has been measured by means of a specially devised plethysmograph which does not impose pressure on the limb, which is free from air leaks, and can be adjusted quickly on the limb. The rate at which edema forms has been estimated by measuring the increase in volume from the tenth to the thirtieth minute after cuff pressure has been applied to the veins. The increase during this period is due solely to edema.

Electrical Field Surrounding Active Heart Muscle.—Evidence is given by Craib from which it would appear that when an element of cardiac muscle is excited, an initial electric disturbance occurs which, so far as points outside the element and associated with it by means of a conducting medium are concerned, may be described as producing an external electric field identical with that which might be expected were the disturbance of the nature of a specifically defined electrical doublet. Also, this initial electrical phenomenon is of very short duration, and has a definite orientation in relation to the element. Sooner or later, a second electrical disturbance appears and gives rise to an electric field equally capable of explanation on the basis of a doublet, but differing from the preceding disturbance in that its orientation is reversed and its duration in time relatively prolonged. These two electrical disturbances give rise to the initial and final phases of the electrocardiogram, respectively.

Kenya Medical Journal, Nairobi, East Africa

4: 1-36 (April) 1927

Diagnosis of Liver Abscess: Forty Cases. P. Manson-Bahr.—p. 2.

Polyvalent Vaccine in Prophylaxis of Bacillary Dysentery in East Africa. W. H. Kauntze.—p. 17.

Lancet, London

1: 1009-1060 (May 14) 1927

Failures of Prostatectomy. J. Thomson-Walker.—p. 1009.
*Ovarian Hormone. F. Dickens, E. C. Dodds and D. J. T. Brinkworth.—p. 1015.
Psychologic Treatment of Mania and Depression. E. Snowden.—p. 1016.
*Effect of Administration of Sodium Beta-Hydroxy-Butyrate on Glycosuria of Phloridzin Diabetes. N. Morris and S. Graham.—p. 1020.
*B. Fallax in Chronic Arthritis. J. Mutch and N. Mutch.—p. 1021.
*Ultraviolet Irradiation in Gangrene. P. Bousfield.—p. 1023.
*Diastatic Reaction in Obstructive Jaundice. J. D. Thomson.—p. 1023.
Case of Facial Paralysis of Aural Origin in Infant Seven Weeks Old. N. Hobhouse and C. J. Marshall.—p. 1024.

Ovarian Hormone.—A method is described by Dickens, Dodds and Brinkworth for obtaining the estrus-producing hormone in a water soluble form by extraction from placenta, the yield being more than 1,000 rat units per kilogram. The activity of the preparation can be easily reduced to below 0.5 mg. per rat unit. Further work indicates that this degree of purity may be exceeded without much difficulty.

Effect of Sodium Butyrate.—In neither of the two experiments made by Morris and Graham did the butyrate cause an appreciable rise in the D: N ratio, their results agreeing with those of Marriott. Evidence of its conversion into sugar was not afforded.

Fallax Bacillus in Arthritis.—Cultures were made by the Mutches from joints excised for orthopedic purposes. In one case a pure culture was obtained of *B. fallax*, an organism which has been isolated occasionally in the past from gangrenous wounds and cases of puerperal septicemia. The effects following the use of *B. fallax* vaccine have been impressive.

Ultraviolet Irradiation in Gangrene.—Bousfield suggests that bedsores in old people may be amenable to treatment with the ultraviolet ray. A case in point is reported.

Obstructive Jaundice.—In a case of obscure obstructive jaundice, Thomson made a series of diastatic reaction tests. The tests indicated a ball-valve action so far as the pancreatic obstruction was concerned, and made it reasonably certain that the biliary obstruction was due to a gallstone that had passed along the common duct, and was now caught in Vater's papilla. This diagnosis was confirmed by the surgeon.

Medical Journal of Australia, Sydney

1: 561-594 (April 16) 1927

Workers' Compensation Act, 1926. R. J. Millard.—p. 562.
Pertussis. R. Southby.—p. 564.
Management of Whooping Cough in Hospital. H. McLorinan.—p. 569.
Prostatectomy: Results. J. T. Tait.—p. 571.
*Obstruction of Ileum in Pregnancy. F. C. Burke-Gaffney.—p. 577.
Immunotransfusion in Bacterial Endocarditis. D. D. Browne.—p. 578.
Bilateral Glioma Retinae. C. G. Berge.—p. 578.

Obstruction of Ileum in Pregnancy.—In the case cited by Burke-Gaffney there was found crossing over the ileum near the ileocecal junction a rather thick band compressing but not obstructing the bowel; this band was tied and cut. About 30 cc. further up the ileum another thick band was found across the bowel completely constricting it. Under this band which was divided and tied, the bowel was cicatrized right round and its lumen obliterated. On each side of this obstruction the bowel seemed healthy, though very distended proximally. Burke-Gaffney made a very considerable longitudinal incision with the constriction as the center, and sutured the opening transversely (enteroplasty). The patient recovered.

Royal Soc. of Trop. Med. & Hygiene Trans., London

20: 401-486 (March 9) 1927

Hemoglobinuria. J. W. W. Stephens.—p. 401.
*Cutaneous Leishmaniasis of Dogs in Iraq. C. R. Chadwick and C. McHattie.—p. 422.
*Destroying Fly Larvae Developing in Stable Manure. G. B. Mason.—p. 433.
Detection and Treatment of Bilharziasis and Ankylostomiasis in Dongola Province, Anglo-Egyptian Sudan. D. S. Davies.—p. 436.
Immunity in East Coast Fever. G. B. Purvis.—p. 447.
Cutaneous Poison of Beetle, Paederus Fuscipes. E. N. Pavlovsky and A. K. Stein.—p. 450.
Breeding of Phlebotomus Papatasii. M. Ashner.—p. 452.
Mass Diagnosis of Ankylostome Infestation: XV. Criticisms: Scientific, Legalistic and Pontifical. C. Lane.—p. 455.
Unusual Case of Aortic Aneurysm. W. A. Young.—p. 478.

Cutaneous Leishmaniasis of Dogs.—Cutaneous leishmaniasis of dogs is said to be common in Iraq, particularly in Baghdad. A careful search for visceral infection, made by Chadwick and McHattie in ten dogs affected with the sore which were specially destroyed for the purpose, showed a complete absence of a concurrent visceral infection. Apparently there is not any morphologic difference between the human and canine parasites. Generally one attack confers immunity. The parasite has not been found in the peripheral blood of the dog. Inoculation experiments have given negative results. Treatment is useless.

Destroying Fly Larvae in Stable Manure.—The principles of the method described by Mason are as follows: The compression of moist manure by close packing results in the center of the heap becoming so hot, owing to fermentation, that the heat generated is quite sufficient to kill the fly larvae which are hatched out from the eggs previously deposited by the flies in the fresh manure. It is found, however, that quite a considerable number of larvae escape the heat in the center by migrating to the outer and cooler exposed layers of the heap. Many of the larvae which thus survive will, when mature, endeavor to reach the cool, dry earth in which to pupate. Their migrations are prevented by the open channel in which they are trapped and destroyed in cresol solution. Furthermore, their escape over the walls is prevented by a projecting ledge, which causes them to fall back on to the heap. The packed manure should not come into contact with this ledge. A certain number of these migrating larvae will remain in the cool, outer layer of the heap, and complete their development into adult flies therein. To remedy this, the outer exposed surfaces must be raked off and turned into the hot center of the heap every day during the close packing process.

Japan Medical World, Tokyo

7: 31-63 (Feb. 15) 1927

Influence of Hydrogen Ion Concentration and Several Drugs on Antidromic Action in Toad. B. I. Hazama.—p. 31.
Treatment of Snake Bite (Agkistrodon Blomhoffi Boie). H. Wada.—p. 35.
Actual Consumption of Food in Japan. S. Toda.—p. 41.

Japanese Journal of Pharmacology, Kyoto

4: 18-28 (March 20) 1927

Physical and Pharmacologic Influences on Action of Curare: III. Calcium, Barium and Magnesium. S. Hori.—p. 1.
Id.: IV. Physostigmine and Nicotine. S. Hori.—p. 18.
Action of Parasympathetic Poisons on Vessels. H. Kaho.—p. 18.
Relation Between Quantity of Urine and Modes of Administration of Ringer-Locke's Solution. S. Uyeda.—p. 19.
Pharmacologic Investigation of Embryonal Chicken Hearts in Various Stages of Development: I. M. Fujii.—p. 20.
Subcutaneous Infusion of Ringer-Locke's Solution in Cases of Chloral Hydrate Poisoning and Hemorrhage. S. Uyeda.—p. 21.
Pharmacologic Action of Diacetyllycorins. Y. Okazaki.—p. 22.
Does Repeated Application of Poisons to Surviving Rabbits' Intestine Affect Their Action? Y. Okazaki.—p. 22.
Pharmacologic Reaction of Denervated Vessels. S. Gotô.—p. 23.
Pharmacologic Investigation on Isolated Heart of Hyperthyroidectomized Rabbit. K. Kuwahata.—p. 23.
Action of *p*-Phenylendiamine on Frog's Heart. Y. Tsuda.—p. 24.
Like Action of Metals: I. Complementary Action of Calcium and Strontium. R. Ôno.—p. 25.
Pharmacologic Investigation on Embryonal Chicken Heart at Various Stages of Development: II. M. Fujii.—p. 26.
Electrical Irritability of Chloralized Heart: Action of Strophanthins on Conductive System. S. Takagi.—p. 26.
Reviving Chloralized Heart by Means of Drugs. S. Takagi.—p. 27.
Component of Folio Pruni Persicae: I. K. Inuki.—p. 28.

Okayama Medical Journal, Okayama, Japan

447: 443-592 (April) 1927

Occurrence of Cholic Acid in Saponified Fish Bile. M. Schoda.—p. 443.
Indophenoloxydase Reaction of Nervous System. K. Kumagai.—p. 446.
Connections of Globus Pallidus with Corpus Luysi and Substantia Nigra in Rabbits. S. Inui.—p. 475.
*Immunization Studies on Herpes Simplex and Zoster. I. Ehara.—p. 504.
Action of Calciums on Uterus and Effect on Action of Epinephrine, Pituitary Extracts and Histamine. Y. Takahashi.—p. 542.
Acid Fuchin Staining. S. Matsuura.—p. 568.
Liver Function Tests in So-Called Epidemic Encephalitis (Typhus B) and Its Sequelae. S. Ohmori.—p. 586.

Virus of Herpes Simplex and Zoster.—Ehara asserts that the viruses of herpes simplex and zoster are identical so far as his immunization studies showed.

Annales de l'Institut Pasteur, Paris

41: 83-200 (Feb.) 1927

Biochemical Researches on Toxins and Their Derivatives. A. Berthelot et al.—p. 83.
Mixed Infection Induced by the Trypanosome and Spirochete. R. Vinzent.—p. 131.
Beta Oxybutyric Acid from Autolysis. M. Lemoigne.—p. 118.
*Pathogenetic and Prophylactic Role of Cerebrospinal Fluid in Rabies. A. Speransky.—p. 166.
Streptococcus Filtrates in Treatment of Erysipelas. K. F. Gloukhoff.—p. 189.
Variations of Cholesterol in Rabies. A. C. Marie.—p. 195.
Experimental Research on Street Virus in Cochin China. Bablet et al.—p. 199.

Rôle of Cerebrospinal Fluid in Pathogenesis and in Prevention of Rabies.—Speransky lays stress on the fact that the prevailing phenomena in rabies are similar to those in toxic encephalitis. They appear to be induced by lesions in the subcortical portion of the brain. Histologic examination showed that the infiltration of the cerebral tissue is situated around spaces in which cerebrospinal fluid is present. The following experiments were made on rabbits and dogs. The total cerebrospinal fluid was withdrawn, immediately after this, an emulsion of fixed virus was injected beneath the dura mater. The disease developed in these animals from three to twelve hours later than in the controls. A series of dogs were injected with rabies virus and with antirabic serum, after removal of the cerebrospinal fluid. Only one dog developed rabies, the incubation period was twelve days. In five patients with severe tetanus, prompt recovery was obtained with tetanus antiserum injected into the subdural space from which the cerebrospinal fluid had been withdrawn. The following experiment in active immunization was carried out. Cerebral tissue of a rabbit dead from rabies was mixed with the cerebrospinal fluid of an ox. The filtrate was injected into the spinal canal in thirteen rabbits. One or two days later, the animals were inoculated beneath the dura mater with lethal doses of fixed virus. Two animals developed rabies at the same time as the controls; in seven the appearance of the disease was retarded, four remained healthy. It appears that the cerebrospinal fluid may be important in isolation of the rabies virus, and consequently in active immunization against the disease.

Archives des Maladies de l'App. Digestif, etc., Paris

17: 121-240 (Feb.) 1927

Study of Pyloroduodenitis. L. Bouchut and P. P. Ravault.—p. 121.
*Nontuberculous Lesions of Mesenteric Glands. C. Cornioley.—p. 151.
Treatment of Diseases Connected with Lesions of the Digestive Tract. C. Oddo et al.—p. 165.

Nontuberculous Disease of the Mesenteric Glands.—In Cornioley's three cases the patients suffered with abdominal pain, especially in the right iliac fossa, diarrhea and vomiting. At operation the mesenteric glands were found to be enlarged, but the lesions were clearly not of tuberculous origin. It was evident that ulceration present in the intestinal mucosa and caused by infection was responsible for the enlargement of the glands. Enlarged glands tend to impair the circulation in the corresponding part of the intestine; they provoke phenomena of intestinal stasis. Enlargement of the mesenteric glands is probably a frequent occurrence; it is rarely diagnosed since the complicating compression and local circulatory disturbances in the intestine are infrequent.

Bulletin de l'Académie de Médecine, Paris

97: 583-603 (May 10) 1927

*Recent Diphtheria Epidemic in Paris. P. Lereboullet.—p. 589.
The Chronaxia in Dementia Praecox. H. Claude et al.—p. 593.
*Effect of Radium Emanations in Septic Diseases. R. Fischer and H. Wohlers.—p. 596.
Bronchial Spirochetosis with Skin Eruption. T. Mironesco.—p. 598.
*Pneumothorax in Treatment of Tuberculosis in Children. P. F. Armand Delille.—p. 600.

Factors of High Mortality in the Last Epidemic of Diphtheria in Paris.—Lereboullet's statistics are based on cases of diphtheria treated in the Hopital des Enfants Malades during last winter. Nothwithstanding intensive serotherapy, the mortality was 13.2 per cent, while usually the mortality in the same ward is below 5 per cent. The fact is ascribed to the coincidence of secondary infections, such as measles, chickenpox, streptococcus infection and pneumococcus diseases. The latter were the most frequent; they appeared under the form of purulent pleurisy, purulent arthritis, or bronchopneumonia. An intercurrent epidemic of influenza was evidently responsible for the pneumococcus infection, and consequently for the severity of the diphtheria epidemic.

Radium Emanations in Treatment of Grave Septic Conditions.—Intravenous injection of fluid charged with radium emanation was used by Fischer and Wohlers in treatment of fourteen cases. From 8 to 20 millicuries, thus used, brought about clinical cure in a case of actinomycosis and complete recovery in a patient with a colon bacillus infection. Rapid disappearance of fever with notable improvement was noted in cases of cholecystitis and of pulmonary congestion. Slight improvement was manifest in a case of typhoid and in one of pulmonary gangrene. The injection was usually well tolerated.

Results of Artificial Pneumothorax in Treatment of Pulmonary Cavities in Children.—Armand Delille's experience includes 300 cases of pneumothorax performed in children with pulmonary tuberculosis. Among them were five infants. The treatment resulted in subsidence of fever and of cough, in disappearance of tubercle bacilli from the sputum and in considerable gain in weight. The insufflations were discontinued after three years. In a large number of cases, the recovery was complete. The pneumothorax never caused any deformities in the child's thorax. The results of simultaneous bilateral pneumothorax are highly encouraging. In a girl, aged 10, with cavities in both apexes bilateral pneumothorax was followed by gain of 8 Kg. in weight; the general condition is very good. In another case in a girl aged 3 two cavities became cicatrized within a year; she gained 4 Kg.

Bulletins de la Société Médicale des Hôpitaux, Paris

51: 567-613 (May 12) 1927. Partial Index

Tetany with Alcoholic Polyneuritis. P. Carnot et al.—p. 568.
*Disease of the Inguinal Glands with Mononucleosis. P. Chevallier.—p. 573.
Pharyngocervical Form of Adenolymphoiditis. P. Chevallier and M. Parent.—p. 581.
Carbon Dioxide of the Alveoli in Pulmonary Tuberculosis. L. Bernard et al.—p. 601.
Anatomic Lesions in Buerger's Disease. A. C. Guillaume.—p. 611.

Primary Disease of the Inguinal Glands with Severe Mononucleosis.—In Chevallier's case, in a man aged 25, after an incubation period lasting about two weeks and characterized by general weakness, the disease began with enlargement of glands in the left groin. The number of mononuclears was increased in the blood as greatly as in a pseudoleukemic condition. Then, within three months, the glands gradually decreased in size. The return of the blood picture to normal was very slow. Four months after the onset of the disease enlarged glands appeared in both axillas. The second recurrence, again under the form of enlargement of the inguinal glands occurred three months later. Chevallier considers this case as an inguinal form of acute adenolymphoiditis accompanied by high grade mononucleosis and slight leukocytosis. At the end of ten months the patient had recovered almost completely. The author is aware of one similar case, cited by Ravaut, Boulin and Rabeau.

51: 615-674 (May 19) 1927. Partial Index

Iodism from Intrabronchial Injection of Lipiodol. E. Libert and M. Bariety.—p. 615.
*Role of Heredity in Exophthalmic Goiter. J. Troisier.—p. 616.
Autovaccine in Treatment of Cutaneous Sporotrichosis. A. Sezary et al.—p. 619.
Artificial Pneumothorax in Laryngeal Tuberculosis. P. F. Armand Delille and H. Caboche.—p. 631.
Amebic Cholecystitis and Amebic Abscess in the Spigelian Lobe. Trabaud and Michel.—p. 644.
Tetany from Spontaneous Hyperpnea. P. Pagniez et al.—p. 663.
*Aldrich and MacClure Test in Mental Diseases. R. Targowla et al.—p. 665.
New Case of Postvaccinal Encephalitis. J. Comby.—p. 671.

Rôles of Heredity and of Iodine in Occurrence of Exophthalmic Goiter.—In Troisier's case, a young man with rheumatic pain in the dorsal region was treated with iodine and salicylate. Six months later, he developed signs of exophthalmic goiter. Investigation revealed that the patient's mother had had exophthalmic goiter twenty years before. Troisier believes that the role of the iodine in the exophthalmic goiter was a secondary one, while that of endocrine heredity was primary.

Edema Resorption Test in Patients with a Mental Disease.—A dose of 2 cc. of a sodium chloride solution was injected intradermally by Targowla, Lamache and Daussy in patients with various mental diseases Resorption of the induced edema was accelerated in acute alcoholism, postpuerperal psychosis, acute delirium, mania, general paralysis with mental confusion and in the febrile phase of malaria treatment The same was observed in cases of mental disorder coinciding, for instance, with cardiac insufficiency or with pulmonary tuberculosis In conditions of mental depression, the resorption time was notably prolonged It was normal in chronic delirium, anxiety and slight mental confusion. In the course of improvement and recovery it became normal where it had not been normal previously The results of the edema test paralleled those of the induced diuresis test and of the urine curve The facts testify to the diagnostic and prognostic value of the resorption test in mental diseases

Comptes Rendus de la Société de Biologie, Paris

96: 442 500 (Feb 25) 1927 Partial Index

*Increase of Biliary Secretion from Methylene Blue E Czarnecki —p 442.
*Antigenic Reactions in Aspergillosis Macaigne and Nicaud —p 446
Estimation of Urea in the Blood H Chabanier et al —p 449
*Bacteriophagy and Condition of Hyperaerobiosis F d'Herelle —p 451.
*Ultrafiltration of the Bacteriophagic Corpuscles G Eliava and E Suarez. —p 460
*Size of the Bacteriophagic Corpuscle G Eliava and E Suarez —p 462.
Treatment of Piroplasmosis in Dogs A Machado —p 477
Prevention of Meningococcus Shock in Horses A de Assis —p 482
Localization of Bartonella Muris in Organs G. de Faria and O Cruz Filho —p 489

Increase of Biliary Secretion from Methylene Blue.—Czarnecki injected intravenously a solution of methylene blue in dogs with a fistula of the common bile duct The injection was followed by increased secretion of bile The amount of the bile became double the normal in about twenty minutes. The hypersecretion persisted for an hour

Antigenic Reactions in Aspergillosis.—Macaigne and Nicaud prepared an antigen with cultures of aspergillus isolated from the sputum of patients The antigen suspension was injected intradermally in a healthy person, in a patient with acute tuberculosis, in another with chronic tuberculosis and in one with aspergillosis. The reaction was negative in the first two, it was slightly positive in the third, strongly positive in the fourth On examination of the sputum of the third patient, a few aspergilli and a large number of tubercle bacilli were found In the fourth patient, besides the local reaction there was also a reaction on the part of the aspergillar focus in the lung The focal reaction resembled that from tuberculin in tuberculosis

Afflux of Air Favors Phenomenon of Bacteriophagy.—D'Herelle reports the results of his recent researches. A current of air had been established in Petri dishes containing dysentery bacilli, staphylococci, plague bacilli and cholera vibrions, and the corresponding bacteriophages The phenomenon of bacteriophagy was hastened The virulence of the bacteriophages, acquired on repeated passages, was increased still further under the effect of the hyperaerobiosis. The method may be advantageously used when a large quantity of a bacteriophagic solution is needed

Ultrafiltration of Bacteriophagic Corpuscles.—Eliava and Suarez's experiments on the antidysenteric bacteriophage showed that the number of lytic particles of the bacteriophage decreases in the course of ultrafiltration. The remaining particles maintain their activity and virulence Eliava and Suarez assert that contrary to the current opinion, the size of the bacteriophagic corpuscle does not exceed 0 005 μ.

Gynécologie et Obstétrique, Paris

15: 81-160 (Feb) 1927. Partial Index

*Azotemia and Renal Functioning in the Puerperium L Cleisz and Laudat —p 81.
*Influence of Pregnancy on Appendicitis Portes and Seguy —p 114
Artificial Fecundation in the Human Species A A Schorohowa —p 132.

Azotemia and Renal Functioning in Normal and Pathologic Pregnancy and in the Puerperium.—In forty-two healthy women examined during pregnancy, Cleisz and Laudat found that the Ambard constant was slightly increased (0 083). The phthalein test gave a slightly reduced elimination of the dye (48 per cent). There was also reduction in the amount of urea in the blood (0.24 Gm.). Similar researches were made in thirty-five pregnant women with various diseases. In women with chronic nephritis, pregnancy favored the appearance of uremic phenomena. Renal syndromes originating in pregnancy presented a transient acute hyperazotemia reaching its highest point after delivery. An increase in the blood urea was manifest in eclampsia. In grave cases associated with severe insufficiency of the liver the amount of the urea remained almost normal. In pregnant women in whom renal insufficiency is suspected, examination of the urine is less important than estimation of the urea in the blood.

Influence of Pregnancy and Puerperium on the Course of Appendicitis.—Portes and Seguy emphasize the fact that pregnancy favors the recurrence of appendicitis The course of the disease is the same during as not during pregnancy. On the contrary, delivery accelerates the appearance of diffuse peritonitis The conclusion is that young women subject to attacks of appendicitis should be operated on before marriage. Appendicitis developing during pregnancy should be operated on without undue delay. The percentage of interrupted pregnancies is the same with an operation as with expectant treatment (from 10 to 15 per cent) Onset of labor is not a valid reason for deferring appendectomy.

Presse Médicale, Paris

35: 625 640 (May 18) 1927

*Insulin in Treatment of Nondiabetic Arteritis Obliterans. H Vaquez and J Yacoel —p 625
Role of Congenital Syphilis in Meningeal Hemorrhages. H. Schaeffer. —p 628

Insulin in Treatment of Nondiabetic Arteritis Obliterans.—Vaquez and Yacoel describe four of forty cases of arteritis obliterans in which insulin was successfully used. The treatment resulted in attenuation, sometimes even disappearance of the pain, and in one instance in increase of the arterial permeability The favorable effect of the insulin is ascribed to the fact that the patients presented a juvenile form of the disease This form appears to be due to trophic lesions in the arterial coats, caused by endocrine disturbances. A daily dose of 10, 15 or 20 units of insulin was injected subcutaneously on twenty successive days The series was repeated at ten day intervals during several months or even for a year. Injection of 10 units of insulin twice a day, immediately before meals, is suggested. The latter should be rich in carbohydrates.

Schweizerische medizinische Wochenschrift, Basel

57: 385 408 (April 23) 1927

Pressure of the Ribs on the Brachial Plexus E Bramwell.—p 385.
Physiology of Calcium Treatment E Rothlin —p 388.
"Juxta Articular Nodes" L. Steiner —p 395.
Reply E. Jeanselme —p. 396

57: 409 432 (April 30) 1927

Calcium Treatment K Kottmann —p 409.
*Ergotamine in Exophthalmic Goiter M. Halder —p 411.
Psychiatric Conception of "Organic Spine" H Steck —p 419.
Injury to the Pelvis and Homolateral Renal Dystrophia. J. Zinsstag —p 422
Abraham a Santa Clara on Physicians and Pharmacists. F. W. Pollin. —p 423

Ergotamine in Exophthalmic Goiter.—Halder did not observe any influence from ergotamine tartrate on the basal metabolism in three healthy subjects The metabolism was lowered in most of her hyperthyroid patients, but this may have been due to spontaneous improvement.

57: 433 456 (May 7) 1927

The Heart and the Psyche. W H von Wyss —p. 433.
Psychiatry and Biology H. Steck —p. 436.
Medicolegal Cases Steiner —p 442.
Hyrtl as Critic Kalt —p 442

57: 457 480 (May 14) 1927

Breast Feeding in Bern W. Tobler —p 457
*Surgical Treatment of Pulmonary Tuberculosis Staub Oetiker —p 460.
*A New Local Anesthetic H. Staudinger —p 465
Malignant Goiter. M. Levinson —p 466

Pernicious Bothriocephalus Anemia. W. Mikulowski.—p. 469.
Transient Strabismus and Meningism After Vaccination. C. Saloz and E. Frommel.—p. 471.

Surgical Treatment of Pulmonary Tuberculosis.—Staub-Oetiker speaks in favor of thoracoplasty.

A New Local Anesthetic.—Staudinger synthesized a group of substances resembling tropin, but containing only one ring ("open chain tropin"). A benzoic ester of a phenylethyltropin has about twice the anesthetizing power of cocaine, but only two thirds of its toxicity.

Pediatria, Naples

35: 513-576 (May 15) 1927

Constitution in Children. S. Maggiore.—p. 513.
*Acute Osteomyelitis of the Spine. A. Bocchini.—p. 554.
Hematology of Premature Infants. A. Mazzeo.—p. 564.

Acute Osteomyelitis of the Spine.—Bocchini's patient, a girl, aged 8 years, fell from a height of about 1 meter, striking the coccygeal region. The disturbances were slight at first, but two months after the accident chills, fever, rigidity of the spine and excruciating pains set in suddenly. She died from septicemia on the fourth day. The osteomyelitis involved the bodies of the second and third lumbar vertebrae. The roentgen-ray examination did not reveal any changes.

Policlinico, Rome

34: 667-702 (May 9) 1927

Leishmaniasis in Sienna. P. Barbacci.—p. 667.
*Sensitiveness of the Peritoneum and Inflamed Appendix. M. De Vincentis.—p. 671.
*Eczema in Tomato Peelers. G. Foà.—p. 675.

34: 217-272 (May 1) 1927. Medical Section

Hemolytic Splenomegaly with Grave Anemia. E. Greppi.—p. 217. C'td.
Diagnosis of Chronic Meningitis. E. Rizzatti.—p. 239.
Sacral Meningocele. L. Sabatini.—p. 254.
Meningococcus Septicemia. G. Stirpe.—p. 265.

Sensitiveness of the Peritoneum and Inflamed Appendix.—De Vincentis, while making appendectomies, tested the sensitiveness of various structures. He found that traction is the only adequate stimulus for the sensation of pain transmitted by the sympathetic fibers of the parietal peritoneum and mesentery and localized in the epigastrium. Ligation of the omentum was also painful.

Eczema in Tomato Peelers.—Foà observed eczema of the hands in children and young women employed in factories canning tomatoes. He attributes the eczema to the citric acid and succeeded in preventing it by advising the workers to dip their hands from time to time in a vat containing a 1 per cent solution of sodium hydroxide and then in water.

Riforma Medica, Naples

43: 361-384 (April 18) 1927

Hypersensitiveness. C. Frugoni.—p. 361.
*Permeability of Pleura and Peritoneum for Antibodies. G. Pansini.—p. 366.
Pyelonephritis from Eustrongylus Gigas. U. Genazzani.—p. 367.
Use of Isotonic Sea-Water. P. Piccinini.—p. 370.
*Bismuth Treatment of Psoriasis. F. Catapano.—p. 380.

Permeability of Pleura and Peritoneum for Antibodies.—Pansini found syphilitic reagins in pleural and peritoneal effusions. Agglutinins for typhoid appeared in such fluids only when the vaccine was injected into the respective cavity. He concludes that syphilitic reagins also are probably produced in the effusions locally—and are not transmitted from the blood.

Bismuth Treatment of Psoriasis.—Catapano reports good results in treatment of psoriasis with injections of a bismuth preparation.

Revista Médica de Barcelona

7: 225-367 (March) 1927

*Spinal Anesthesia and Intestinal Motility. F. Doménech Alsina.—p. 227. C'cn.
*Synthalin. R. Carrasco Formiguera.—p. 246.
Radium Treatment of Prostatic Adenoma. V. Compañ.—p. 269.
*Calmette's Tuberculosis Vaccination. L. Sayé et al.—p. 274.

Spinal Anesthesia and Intestinal Motility.—Doménech investigated experimentally and clinically the action of spinal anesthesia on intestinal motility. His eighteen cases included normal subjects and patients with dynamic volvulus and mechanical occlusion. Spinal anesthesia elicits almost immediately a marked and durable increase in intestinal peristalsis. Atropine and chloroform inhalation anesthesia inhibit peristalsis. The increased motility is caused by the temporary chemical "section" of the preganglionic fibers of the splanchnic nerve supply; thence the inhibitory influence of atropine. The results obtained by removing the splanchnic nerves in dogs paralleled the effect of spinal anesthesia. The effect of spinal anesthesia is more lasting in cases, such as peritonitis, in which the intestine is paralyzed by the increased tonus of the sympathetic system. The evacuant action is furthered by the paralysis of the anal sphincter induced by this form of anesthesia. The peristaltic effect of spinal anesthesia has clinical uses in dynamic ileus and, especially, in peritonitis and mechanical ileus.

Synthalin in Diabetes.—Carrasco was perhaps the first physician outside of Germany who had the opportunity to try synthalin. He confirms previous reports to the effect that the chief advantage of the new drug lies in its ability to act when administered by mouth. On the other hand, its toxicity may cause disturbances and its slow action precludes its use in emergencies. Cases refractory to insulin will probably be even more refractory to synthalin. At best, it is but a partial substitute for insulin in moderate and severe cases. In mild diabetes it can prove, however, very useful.

Calmette's Antituberculous Vaccination.—Since the latter part of 1924, Sayé and his associates have been carrying on experiments and clinical tests with Calmette's B. C. G. vaccine. Subcutaneous injections in the ear of the rabbit may induce a seropurulent nodule. This may last several months. B. C. G. may remain active at the site of inoculation for as long as thirteen months. Large amounts persist longer than smaller amounts. Immunity may be induced by successive injections. Small doses of virulent bacilli exert the same action as reinjections of B. C. G. vaccine. Among eighty-five children under observation for from six to eighteen months and exposed to a few bacilli from birth or to a massive contagion at the age of three to four weeks, there was not a single death certainly attributable to tuberculosis and only one that was probably caused by it. If this case is admitted, the death rate is only 1.1 per hundred.

Archiv für exp. Pathologie und Pharmak., Leipzig

120: 129-258 (Feb.) 1927

Acquired Resistance to Alcohol. L. Lendle—p. 129.
*Insulin Plus Saponin by Mouth. F. Lasch and S. Brügel.—p. 144.
Action of Nicotine on Isolated Suprarenals. A. I. Kusnetzow.—p. 156.
Antagonism Between Chloral Hydrate and Picrotoxin. H. Wieland and P. Pulewka.—p. 174.
Urethane and Barbital P. Pulewka.—p. 186.
Pharmacologic Action of Ephedrine. H. Kreitmair.—p. 189.
*Problem of Sleep. V. Demole.—p. 229.

Insulin Plus Saponin by Mouth.—Lasch and Brügel dissolved 0.5 Gm. of saponinum purum in 20 cc. of physiologic solution of sodium chloride and added 20 units of insulin The mixture lowered the blood sugar in both healthy and diabetic subjects, when taken one hour before a meal and from six to eight hours after the preceding meal.

Problem of Sleep.—Demole produced sleep in cats and rabbits by injecting into the region around the tuber cinereum about 0.05 cc. of Ringer's solution containing a few tenths of a milligram of calcium chloride. Injection of potassium chloride produced the opposite effect, especially a motor irritation.

Archiv für die gesamte Physiologie, Berlin

215: 675-806 (March 2) 1927

Action of Nonelectrolytes on the Surviving Nerve. G. Ettisch and J. Jochims.—p. 675.
Action of Poisons on the Blood Vessels of the Isolated Ear. B. S. Ssentjurin.—p. 683.
Mechanism of Reflex Vomiting. E. Babsky.—p. 692.
Cerebral Inhibitory Processes. A. Samojloff and M. Kisseleff.—p. 699.
Recuperation and Gas Metabolism. E. Simonson.—p. 716.
Training and Gas Metabolism. E. Simonson and O. Riesser.—p. 743.
Respiration, Training and Gas Metabolism. E. Simonson.—p. 752.
Brightness with Binocular and Monocular Vision. F. Lippay.—p. 768.
*The Nervous System and Glycogen. E. Wertheimer.—pp. 779 and 796.
Correction. Árvay.—p. 803.

The Nervous System and Glycogen.—Wertheimer cut the sciatic nerve in dogs Starvation and phlorhizin did not deprive the paralyzed muscles of glycogen, and the fat in the popliteal region remained. Severing of the tendon gave a similar result. On the other hand, a denervated muscle did not store glycogen when the starvation period was succeeded by feeding, but the muscles with severed tendons stored it. The storage of glycogen in the liver does not depend on the innervation.

Archiv für Verdauungs-Krankheiten, Berlin

40: 159 312 (April) 1927

*Sex Differences in Gastrointestinal Diseases H Günther—p 159.
*Action of Biliary Acids on Lime Soaps of the Stool E Adler—p 174.
*Action of Alkalis on Formation of Soaps in Feces in Jaundice W. Heupke—p 184
Lamblia Intestinalis K Wezler—p 197 C'en
Spontaneous Cure of Diabetes H Benedict—p 217
Reexamination of Surgically Treated Patients K Glaessner and D. Ettinger—p 233
Unfulfilled Hopes from Insulin G Arany—p 241.
Acute Atrophy of the Liver and Pluriglandular Disturbances. C. Eickhoff—p 256
Diagnostic Value of Cholecystography S Mintz—p 265
Mistakes in Cholecystography T Barsony and E Koppenstein—p 281.
Vegetable Proteins in Human Feces A Tilger—p 292

Sex Differences in Diseases of Digestive System.—Gunther finds a greater frequency of ulcer of the stomach and its complications (hematemesis, perforation, subphrenic abscess) in women but a comparatively greater mortality in men. In ulcer of the duodenum the relation is reversed

Action of Biliary Acids on Lime Soaps of the Stool.—Adler finds that bile or biliary acids increase the solubility of lime soaps, especially in the presence of sodium bicarbonate.

Action of Alkalis on Formation of Soaps in Feces in Jaundice.—From 28 to 51 per cent of the fat administered was found by Heupke in the feces of patients with jaundice The loss of fat was increased on administration of lime. Sodium bicarbonate did not improve the absorption of fat, but increased the amount of soluble soaps in the feces

Beiträge zur Klinik der Tuberkulose, Berlin

66: 1 263 (April 21) 1927

*Survey of the Thoracic Vegetative System. W. Braeucker.—p. 1.
*History of Phthisis W Pagel—p 66
Peculiar Fever in Tuberculosis with Cavitation O Glogauer—p 99.
Specificity of Tuberculin Reaction. H. Selter and W Blumenberg—p 105
Action of "Sanocrysin" J Gravesen—p 117.
"Sanocrysin" and Möllgaard's Serum in Guinea Pigs K Weise and E Jakobssohn—p 144
Blood Colloids in Tuberculosis S Somogyi—p 163
Significance of Sedimentation Test F Langebeckmann—p. 172.
Blood Clotting in Hemoptysis T. Sternberg—p 178
*Viscosity of the Blood in Tuberculosis. G Schnierelmann—p 183.
Aggravation of Tuberculosis by Injury G Pietsch—p 190
Constitutional Disturbances from Tuberculosis S Budai—p. 195.
Treatment of Intestinal Tuberculosis E Seuffer—p. 213
Technic of Thoracocauterization. Kremer—p 219.
Mediastinal Pleurisy in Children W Luthold—p 222
Physiology and Pathology of the Diaphragm L. Maas—p. 236.
Typhobacillosis K Holzer—p 245
Loss of Arm and Pulmonary Tuberculosis. S Spitz—p 258
Diaphragmatic Hernia and Relaxation K Schlapper—p 260.

Survey of Thoracic Vegetative System.—Braeucker publishes a detailed anatomic and physiologic study and two pictures of the vegetative nervous system of the thorax and discusses its clinical and surgical significance. He concludes that in man several nerves contain depressor fibers He finds that Jonnesco and Jonescu were mistaken in assuming that the accelerans nerves are not vitally important. Their patients, whose heart functioned well after sympathectomy, in reality still had accelerans nerves originating from the upper thoracal segments. The surgical methods of treatment of angina pectoris do not remove all the sensory fibers and destroy some of the motor fibers. Paravertebral injections are at least harmless and deserve further trial. Resection of the posterior bronchial branches interrupts the connection between the central nervous system and the bronchioles. If asthma were caused by a reflex through the central nervous system, such a resection would cure it. If a humoral factor intervenes, the operation would not help, because it does not affect the postganglionic nervous apparatus nor the bronchial muscles.

History of Phthisis.—Pagel follows the history of the conception of ulcerative tuberculosis of the lung from Hippocrates to the present time.

Viscosity of Blood in Tuberculosis.—Schnierelmann found that viscosity of the blood in patients with pulmonary tuberculosis shows changes parallel with the tuberculous toxicosis, the sedimentation speed and the erythrocyte count.

Biochemische Zeitschrift, Berlin

181: 1-250 (Feb. 8) 1927

*Urea Formation in Fungi. N. N Iwanoff and A. Toschewikowa.—p. 1.
*Urea in Bacteria. N N. Iwanoff and M. I. Smirnowa.—p. 8.
Vital Staining of Erythrocytes. P. J. Jurišić—p. 17.
Determination of Plasmal in Serum. R. Feulgen and K. Imhäuser.—p 30
*Specificity of Lipases P Rona and R. Ammon—p. 49.
*Ammonia Formation in Physiologically Stagnating Blood. A. Klisiecki et al—p 80
*Cyanates and Ammonia Formation in the Blood. W. Mozolowski and M Taubenhaus—p. 85
Sterilization of Green Fodder by Fluids C. Brahm.—p 96.
Metabolism of Glucuronic and Galacturonic Acids. R. Hürthle.—p. 105.
*Protection of Insulin Against Enzymes by Saponin. F. Lasch and S Brügel—p 109
Chemical Properties of Different Varieties of Wheat. L. Berczeller and H Wastl—p. 117.
Physical Properties of Different Varieties of Wheat. L. Berczeller and H Wastl—p. 133
Bioradio Activity of Plants E Burkser et al.—p. 145.
Acidity and the Action of Quinine and Urea on Pancreatic Lipase. J. A. Smorodinzew and V A. Danilow—p 149.
Fermentation of Dextrose and Pyruvic Acid. E Hägglund and L. Ahlbom—p 158
*Toxicity of Local Anesthetics in Intra Arterial Application. T. Kuroda.—p 172
*Hypoglycemia During Milking. O. Carlens and A. Krestownikoff.—p 176
Action of Potato Juice on Biologic Reduction A Pietsch.—p. 183.
"Stimulating Action on Single Cells" H. Schulz—p. 192.
*Enhancing Enzymatic Action by Known Substances. M. Jacoby.—p. 194.
Growth and Amount of Nutritive Factors in Fungi. R. Meyer.—p. 207.
Mechanism of Blood Sedimentation L Berczeller and H Wastl—p 210
Life Expectation on a One Sided Organic Diet. L. Berczeller and H Wastl—p 216
*Behavior of Alanine and Pyruvic Acid in Surviving Diabetic Liver. V Laufberger—p 220
Lysis of Tissue Cells. V. Laufberger—p 225
Conditions of Lysis of Tissue Cells F. Hora.—p 230.
Correction E. Rupp and H. Schlee—p. 250.

Urea Formation in Fungi.—The formation of urea both from ammonium carbonate and from arginine was observed by Iwanoff and Toschewikowa in mushrooms. The latter type of formation of urea occurs even in the expressed juice, the former only in the cap of the living mushroom.

Urea in Bacteria.—Iwanoff and Smirnowa found that *Bacterium megatherium, Bacterium tumescens, Proteus sophii, Bacillus mesentericus, Bacillus subtilis* and *Bacillus mycoides* form urea in amounts between 12.8 and 15.5 mg. per ten cubic centimeters of a gelatin-peptone medium. Since the formation or urea does not occur in a mixture of amino-acids, which does not contain arginine, they conclude that bacteria can form urea only from the latter substance, not by synthesis, as do mushrooms. *Bacillus fluorescens* and *Bacillus coli* form urea only if free arginine is present. *Proteus vulgaris* does not produce it. Only cultures made without addition of dextrose or mannose develop urea. If these sugars are added, urease forms and splits the urea as soon as formed.

Specificity of Lipases.—Rona and Ammon publish an electrometric method for study of the fermentative action of lipases. They used it together with the method by gas analysis in their investigations on the stereochemical specificity of lipases and on the action of different poisons on them.

Ammonia Formation in Physiologically Stagnating Blood.—After stimulation of the splanchnic nerve, Klisiecki, Mozolowski and Taubenhaus found more ammonia in the blood from the splenic vein than in that from the jugular vein.

Ammonia Formation in Blood and Cyanates.—Mozolowski and Taubenhaus found that the formation of ammonia in the blood is not due to splitting of cyanates. They failed to find the slightest indication of any presence of cyanates in human, dog's or rabbit's blood.

Protection of Insulin Against Enzymes by Saponin.—Addition of 10 mg. of saponin was found by Lasch and Brugel to protect insulin against the injurious action of pepsin and trypsin in vitro as well as in vivo.

Toxicity of Local Anesthetics in Intra-Arterial Application.—Kuroda injected various substances of the cocaine group into the artery and found them less poisonous than when injected into the vein. It seems that they lose some of their toxicity in the capillaries.

Hypoglycemia During Milking.—Carlens and Krestownikoff determined the blood sugar in milch cows Hypoglycemia occurred regularly during milking. The lowest blood sugar concentration observed was 0 04 mg. per hundred cubic centimeters. The phenomenon was more pronounced when the amount of milk was large and when the cows were fed beets. A goat did not present any hypoglycemia These investigations are a continuation of Widmark and Carlen's observations on the rôle of hypoglycemia in the pathogenesis of labor paralysis in cows.

Enhancing Enzymatic Action by Known Substances.—Jacoby established the fact of a considerable increase in activity of urease from addition of potassium cyanide or histidine. Histamine and hemoglobin also enhanced the action of urease more than amino-acids do generally.

Behavior of Alanin and Pyruvic Acid in the Surviving Diabetic Liver.—Laufberger added d-l-alanine or pyruvic acid to the fluid with which he perfused a surviving liver from a pancreatectomized dog These substances did not change into lactic acid, but showed an antiketogenic action. The added alanine was absorbed by the parenchyma of the liver within a few minutes.

181: 251-490 (Feb. 17) 1927

Reaction of Water and Growth of Bacteria. V. Enevoldsen —p 251.
An Enzyme Dissolving Collagen W S. Ssadikow.—p 267
*Plasmalogen in Body Fluids W. Stepp et al.—p 284
Lithium Citrate in Prevention of Blood Clotting. G De Toni —p 289.
Action of Carboxylase E Hagglund and T. Rosenqvist —p 296
Biology of the Soil of Wooded Regions. R Bokor.—p 302
*Biochemistry of Cancer. F Silberstein et al —pp 305 and 316
Substitutes for Sugar in Hypoglycemia F. Silberstein et al —p 327
Influence of Ergotamine, Histamine and Organ Extracts on Insulin F. Silberstein and S Kessler —p 333
Iso Agglutination and Blood Sedimentation W Schloss —p *345*
Constitution and Action of Alkyl-Resorcin Carboxylic Acids L Bleyer. —p 350
Determination of Diacetic Acid L. Lorber.—p 366.
Relation of Acetone and Diacetic Acid in the Urine L. Lorber —p 375.
The Enol and Keto Form of Diacetic Acid L Loder —p 383
Colorimetric Micro Determination of Iron L Lorber —p 391
*Metabolism of Leukocytes W. Fleischmann and F Kubowitz —p 395.
Nucleinic Acid Content of Organs N Alders —p 400.
*Decomposition of Beta Oxybutyric Acid in the Liver. I Snapper and A *Grünbaum —p 410*
*Decomposition of Diacetic Acid in the Perfused Liver. I. Snapper and A Grünbaum —p 418
Oxidation Mechanism of Plants A von Szent Györgyi —p 425.
Function of Suprarenal Cortex and Substance Cxii. A von Szent-Györgyi —p 433
*Specificity of Proteolytic Serum Enzyme in Rabbits. M F. von Falkenhausen and H J Fuchs —p 438
Bing and Heckscher's Determination of the Neutral Fat Cholesterol Fraction in the Blood H Heckscher.—p 444

Plasmalogen in Body Fluids.—Stepp, Feulgen and Voit examined various body fluids for the presence of plasmalogen. This is, according to Feulgen and Voit, a substance which changes by addition of mercuric chloride or acids into another substance, which they called plasmal. The latter contains a free aldehyde group and therefore reacts in high dilutions with fuchsin-thiosulphuric acid. The substance is present in serum and milk (to a greater degree in colostrum) and especially in pus Amniotic fluid gave the reaction, while the urine, cerebrospinal fluid and aqueous humor were always negative.

Biochemistry of Cancer.—Silberstein, Freud and Révész investigated the gas and carbohydrate metabolism of tarred mice and dogs in the precancerous stage. The respiratory metabolism increased and the changes in carbohydrate regulation resembled somewhat those found in diabetes, in protracted lack of carbohydrates or in inanition, although the animals did not show any loss in weight at that time. The insulin resistance was lowered at first, then became normal and later—as the tumor developed—it increased Acid alcoholic extracts from tumors depressed the blood sugar slightly. Aqueous extracts from tumors induced a transitory hyperglycemia, which was sometimes protracted. Addition of these extracts or cells to insulin prevents the hypoglycemia, but, in spite of this, frequently produces the other signs of the so-called hypoglycemic syndrome The differences between cancer cells and normal tissue cells were merely quantitative.

Metabolism of Leukocytes.—Fleischmann and Kubowitz found a considerable anaerobic fermentation of leukocytes from goose blood and from peritoneal exudates of rabbits. The respiration of oxygen does not suppress the fermentation.

Decomposition of Beta-Oxybutyric and Diacetic Acids in the Liver.—Snapper and Grunbaum confirm the fact that a part of beta-oxybutyric acid (from 16 to 32 per cent) changes into diacetic acid on being perfused through a surviving liver. They also confirm the observation of other authors on the disappearance of a large proportion of the remaining oxybutyric acid, but this is due only to its absorption by the liver. They were able to extract almost all of it from that organ The liver also seems easily to reduce diacetic to beta-oxybutyric acid.

Specificity of Proteolytic Serum Enzyme in Rabbits.—Falkenhausen and Fuchs found that the rabbit's serum decomposes fibrin obtained from other races of rabbits

182: 291-490 (March 19) 1927 Partial Index

*Administration of Iodine to Lactating Rats E Maurer and S Diez —p 291
Significance of Iron, Zinc and Copper for Micro Organisms H Bortels —p 301
Cations of Organs After Irradiation and in High Altitudes L Pincussen —p 359
Influencing the Biologic Action of Light L Pincussen —p 366
*Cytolysis in Cancer N Waterman and L de Kromme —p 377
Influence of Splenic Extract on Elimination of Dyes from the Blood G Farkas and H Tangl —p 399
Influence of Histamine and Choline on the Same G Farkas and H Tangl —p 406
Influence of Hormones on the Same H Tangl —p 411
Organ Extracts and Growth of Rats H Tangl —p 418
Avitaminosis in Pigeons After Removal of Hemispheres B J Bijandurow.—p 442
Fractioning the Reducing Substances in Blood Filtrates B Sjollema —p 453
Cryoscopic Thermometer H. Menzel —p 460
Oxalic Acid in Urine C G Holmberg —p 463
Formation of Lactic Acid by Yeast C. Neuberg and M Kobel —p 470

Administration of Iodine to Lactating Rats.—Maurer and Diez fed lactating rats partly on maize grown on a soil which contained a large amount of iodine, partly on milk from cows which received daily 4 mg of iodine The young suckled by these weighed about 20 per cent more than the controls

Cytolysis in Cancer.—Waterman and de Kromme confirmed on tarred animals the fundamental observations of Freund and Kaminer.

Deutsche medizinische Wochenschrift, Berlin

53: 781-820 (May 6) 1927

*Infraclavicular Infiltration of the Lungs H Assmann —p 781
"Sanocrysin" Treatment H Scholz —p 783
Calmette's Vaccination Against Tuberculosis W Keller —p *786*
Diagnosis of Sporadic Scurvy H Seckel —p 790
Psoriasis and the Endocrine System A Buschke and W Curth —p 792
*Sensitiveness of the Dura Mater of the Brain M Neiding —p 795
Vitamins in the Etiology of Cancer. R Erdmann et al —p 796
Stammering A Liebmann —p 800
A New Gastroduodenal Apparatus M Einhorn —p 802
Technic of the Normomastic Reaction F Meyer —p 802
Automatic Irrigator Stopcock Natannsen —p 803
Ethylchloride Plus Cologne for Anesthesia M Senator —p 803
Surgery in 1926 A W Fischer —p 803
Remarks in the Chamber of Physicians S Alexander —p 806
Impressions from the Wiesbaden Congress J. Schwalbe —p 807

Infraclavicular Infiltration of the Lungs.—In young adults Assmann frequently observed isolated infraclavicular foci as the first signs of tuberculosis. The foci are usually located laterally. They are important for early diagnosis and treatment.

Sensitiveness of the Dura Mater.—Neiding concludes from his observations that the dura mater in man does not register the sensation of pain The nerves accompanying the arteria meningea media may, however, be sensitive

53: 821 864 (May 13) 1927

Psychotherapy. Gaupp —p 821 C'td
*Radium Treatment of Goiters F. Gudzent and E Kussat —p. 823.
*Malignant Diphtheria. H Deicher and F Agulnik —p 825.
Treatment of Influenza in Children G Maly —p 829
*Experimental Gonorrhea in Animals Partsch and Nagell —p 835.
Dissemination of Tubercle Bacilli by Patients P Kolf —p 836.
Instrument for Squeezing Tonsils Mayer Breitbach —p 836
Treatment of Obesity R Kolb —p 836
Treatment of a Dwarf with a Thyroid Preparation Hurwitz —p 837.
Interlabial Occlusion of the Vulva in Children K. Ochsenius —p 838.
*Varicose Ulcer of the Leg Lippmann —p 839
Roentgen Ray Treatment in Gynecology K Herold —p 840. C'cn.
A Bill on Proprietary Remedies H Meyer —p 841
Parliaments and Medicine K Finkenrath —p 843
Institute for Experimental Balneotherapy in Wiesbaden F Blumenfeld. —p 843
Medical Thinking Goldscheider —p 844 C td
A Criticism of Criticism R von den Velden —p 845

Radium Treatment of Goiters.—Gudzent and Kussat report favorable results from irradiation of goiters with radium or mesothorium They consider this treatment the method of choice in exophthalmic goiter, while they are in favor of surgery in goiters without signs of hyperfunction

Malignant Diphtheria.—Deicher and Agulnik's figures show that the gravity of diphtheria has increased since 1925 The mortality in their hospital rose from 6 1 per cent in 1923 to 17 4 per cent in 1926 Deaths occurred even among older children and adults The serum (average dose 20,000 units intravenously and 20,000 units intramuscularly to start with) is of reliable help only on the first day, it helps less on the second and not much when administered later, although it should be given even then It seems that the thirty year period of mild diphtheria is at its end

Experimental Gonorrhea in Animals.—Partsch and Nagell were unable to confirm Borju and Sersorin's results in production of gonorrheal infection of the eye in rabbits after preliminary instillation of bile They also failed in their attempts to induce gonorrheal arthritis in dogs and rabbits, even after injury to the joints

Varicose Ulcer of the Leg.—Lippmann calls attention to the old method of treatment by application of a 2 to 7 per cent solution of chlorinated lime The gauze soaked in the solution should not be larger than the ulcer The dressing is covered with a water-proof paper and changed twice daily.

Deutsche Zeitschrift für Chirurgie, Leipzig

201: 1 144 (March) 1927

Cholesteatoma of the Cerebellopontile Angle W Anschutz —p 1
*Influence of Tracheal Stenosis on the Heart and Circulation F Sulger. —p 21
A New Ether Mask W Buschmann —p 60.
Pseudarthrosis B Pfab —p 71
Bilateral Lesion of the Os Naviculare Pedis in an Adult W Muller —p 84
Fracture of the Lesser Trochanter from Muscular Strain. K. Urban —p 89
Toxic Adenoma B Breitner —p 95
Carcinoma of the Breast T Antoine and B Pfab —p 99.
*Osteoplastic Repair of the Thoracic Wall W. Graf —p 109.
Suture of the Heart M Jakob —p 115
Operation for Cleft Palate in Older Children and Adults W. Deubner. —p 117.
Death from Bleeding into the Tissues H Roltsch —p 122

Influence of Tracheal Stenosis on the Heart and Circulation.—From experiments on dogs, Sulger concludes that enlargement of the heart results from stenosis of the trachea only when the hindrance to expiration and that to inspiration are equal or when expiration is free while inspiration is obstructed. The cardiac enlargement affects chiefly the right auricle and ventricle The blood pressure in the pulmonary artery may fall, if the stenosis is severe. If inspiration is free and expiration not too greatly hindered, the heart and the blood pressure in the carotid and pulmonary arteries are not appreciably affected If the expiratory obstruction is very great, the heart may become reduced in size.

Osteoplasty of the Thoracic Wall.—The main feature of the method described by Graf for repairing large defects of the thoracic skeleton consists in splitting longitudinally the remaining segments of the partially lost ribs and turning back the external portion with its soft parts connections over the area to be covered.

Klinische Wochenschrift, Berlin

6: 769 832 (April 23) 1927

Exchange of Substances Through Capillaries. A. Krogh —p. 769.
Interaction of Somatic and Mental Factors. F. Mohr.—p. 772.
*Functional Pathology of the Liver G von Bergmann —p. 776
*Biliary Acids in Jaundice F. Rosenthal and L Wislicki —p. 781.
Skin Tests in Asthma. F. Klewitz and R. Wigand.—p. 784.
*Food and the Capillaries M. Gansslen —p 786.
*Condition of Serum Calcium. K. Klinke —p 791.
*Hyperplasias of the Thyroid H. Zondek —p 794.
Antirachitic Action of Ergosterol. H. Beumer and C. Falkenheim. —p 798
Basal Metabolism in Endocrine Diseases. H Schwarz —p. 799.
Metabolism of Carbohydrates and Fats in Pregnancy. A. Gottschalk. —p 802
*Hyperventilation of the Lungs and Gastric Secretion. F. Delhougne. —p 804
Sugar in Arterial and Venous Blood. G Rosenow —p 805.
*Fever Treatment of Experimental Syphilis R. Wagner and F. Breinl. —p 805
Roentgen Ray Diagnosis of Pulmonary Tuberculosis. L. Steffen —p 807.
Idem A Fraenkel —p 810
The Gastro Intestinal Canal and Acid Base Equilibrium. K. Beckmann. —p 812
Masks for Prevention of Allergic Diseases. E. Fränkel and E. Levy. —p 831
Intravenous Injection of Ergotamine Tartrate. F. von Mikulicz Radecki. —p 832.

Functional Pathology of the Liver.—Bergmann injects intravenously 0 07 Gm of bilirubin (about one seventh of the normal daily production) in 10 cc. of a 5 per cent solution of sodium bicarbonate. The blood bilirubin returns to the previous level in from three to four hours in normal subjects. The return is slower in patients with disturbances of the liver, especially in cirrhosis. Grave alcoholic intoxication is also followed by a prolonged elimination time. He is convinced that alcohol plays an important — although certainly not exclusive — róle in the pathogenesis of cirrhosis of the liver.

Biliary Acids in Jaundice.—Rosenthal and Wislicki revised the conception of cholemia, in the sense of auto-intoxication with biliary acids. Cholascos is a striking example of it. The concentration of these acids in the serum from patients with jaundice varies between 5.5 and 12.7 mg. per hundred cubic centimeters. The erythrocytes contain more biliary acids than the serum. Since the lethal concentration may be estimated at about 20 mg per hundred cubic centimeters, such patients would invariably die, if they had to depend on the elimination of these acids by the urine (about 0.1 to 0 2 Gm daily). Unless intestinal elimination is proved, it appears probable that the diseased liver restricts, as a rule, the formation of biliary acids. They observed 24 mg. of biliary acids per hundred cubic centimeters of serum in a fatal case of Weil's disease.

Food and the Capillaries.—Gansslen investigated the changes in the capillaries in two students. He observed a dilatation of the capillaries together with a hemorrhagic tendency resembling scurvy and an increased absorption of fluid from artificial blisters after ten days of a diet containing excessive amounts of meat (three pounds a day). The changes retrogressed on a milk and vegetable diet.

Condition of Serum Calcium.—Klinke found that the calcium concentration in serum was not altered by repeated freezing. He concludes from this and other observations that the serum cannot be an oversaturated solution of calcium carbonate or phosphate. He believes that the serum calcium is partly ionized (about 3 mg. per hundred cubic centimeters), partly dissolved as a complex or molecular salt. Part of the latter compound is loosely adsorbed to proteins. He believes that the ionized calcium is diminished in tetany and chronic nephritis, but that the concentration of the complex salt is lowered in tetany alone — not in nephritis, unless there are convulsions. The ionized calcium and the complex salt are ultrafiltrable The salt adsorbed to proteins splits off on dialysis and then passes into the outer fluid. This explains the difference in results from ultrafiltration and from dialysis.

Hyperplasias of the Thyroid.—Zondek describes four cases which might be classified as "obese exophthalmic goiter." Such patients are intolerant to thyroid treatment.

Hyperventilation of the Lungs and Gastric Secretion.—Delhougne found that prolonged hyperpnea inhibits, to some extent, the acid secretion of the stomach. This is due to the alkalosis of the blood.

Fever Treatment of Experimental Syphilis.—Wagner and Breinl infected rabbits with syphilis. Experimental infection of these animals with Rocky Mountain spotted fever caused a rise in temperature to from 40 to 41 C., lasting for 1 week, and exerted a curative influence on the syphilitic infection.

6: 833-880 (April 30) 1927

Syphilis and the Endocrine System. A. Buschke and W. Jost.—p. 833.
*Carbohydrate Metabolism and the Avidity Theory. W. Falta.—p. 835.
*Physiologic Variations of Leukocyte Counts. E. F. Müller and W. F. Petersen.—p. 840.
Perna Disease (Chlorine Acne). Teleky.—p. 845. C'td.
Irradiated Protein-Free Milk Fat. F. Rohr and O. Schultz.—p. 848.
Albumin "A" Reaction. K. Posener and W. Behrens.—p. 853.
Metabolism in Cystinuria. M. Altmann.—p. 854.
Sensitiveness of Pleura and Pericardium. Unverricht.—p. 855.
"Regulation of Blood Sugar." F. Depisch and R. Hasenöhrl.—p. 855.
"Nomenclature of Blood Groups." F. Verzár.—p. 856.
*Alimentary Hyperglycemia. H. Häusler and O. Loewi.—p. 856.
*The Antagonist of Insulin. S. Dietrich et al.—p. 856.
*Source of Glycemin. S. Dietrich.—p. 856.
*Insulin in Pancreatico-Duodenal Vein. S. Dietrich.—p. 857.
Skin Inury from Thorium X. W. Wolffenstein.—p. 857.
Diagnosis and Treatment of Hemorrhoids. H. Elsner.—p. 858.
International Sanitation Conference in Paris. E. Seligmann.—p. 861.

Carbohydrate Metabolism and the Avidity Theory.—Falta deals with the theory of regulation of the carbohydrate metabolism in diabetes especially from the standpoint of his theory of avidity. He believes that insulin increases the avidity of tissues for dextrose. The interaction of the pancreas with the thyroid and the suprarenals contributes to the maintenance of equilibrium.

Physiologic Variations of Leukocyte Counts.—Müller and Petersen have extended their investigation on the interrelation of the splanchnic and peripheral areas to comparisons between the functional conditions of the stomach and of the peripheral capillaries, using the number of mature neutrophil leukocytes as indicator of the latter. Whenever the hunger contractions of the stomach set in, the number of leukocytes in the periphery increases. It decreases, when the stomach dilates and starts secreting spontaneously or under the influence of food or of injections of various substances. The hemoclastic crisis as well as the digestive leukocytosis are physiologic symptoms of the simultaneous physiologic vegetative reactions of the splanchnic area and of the periphery. The chronic leukopenia in patients with peptic ulcers is another phenomenon of this type. The tendency to secretion of hydrochloric acid lowers the hunger contractions in these individuals and at the same time conditions the peripheral leukopenia. The abnormal vegetative equilibrium in such individuals precedes the formation of an ulcer and continues after its healing. The leukocytosis in hungry diabetic patients is intimately connected with the powerful hunger contractions of the stomach.

Alimentary Hyperglycemia.—Häusler and Loewi found that not only atropine, but also section of the vagi prevents the insulin secretion that follows a subcutaneous injection of dextrose.

The Antagonist of Insulin.—Dietrich, Häusler and Loewi found in the blood of pancreatectomized dogs the same substance, inhibiting the fixation of dextrose to erythrocytes, that they had discovered in the blood of diabetic patients and of animals with hyperglycemia induced by epinephrine, venesection or administration of dextrose. This substance also increases the secretion of dextrose by the perfused frog liver. They have given the name "glycemin" (*Glykämin*) to this antagonist of insulin.

Source of Glycemin.—Dietrich fed animals with dextrose. He found that the glycemin mentioned in the preceding abstract appears first in the hepatic veins.

Insulin in the Pancreatico-Duodenal Vein.—Dietrich succeeded in demonstrating the appearance of insulin in the pancreatico-duodenal vein after stimulation of the vagus or after subcutaneous injection of dextrose. The insulin appears there before it is demonstrable elsewhere in the blood.

Medizinische Klinik, Berlin

23: 583-626 (April 22) 1927

Atypical Cachexia. H. Curschmann.—p. 583.
Results of Surgery of Peptic Ulcer. Finsterer.—p. 585.
Diaphoretic Tea. W. Wiechowski.—p. 590.
The Recent Influenza Epidemic. R. Fischl.—p. 592.
Anuria from Impacted Renal Calculus. G. Rosenfeld.—p. 594.
"Sudden Apnea in Tabes." N. Ortner.—p. 595.
Trichinosis. K. Trommer and W. Hebenstreit.—p. 595. C'td.
The Kidney in Diabetic Coma. H. Metzger.—p. 598.
Treatment of Syphilis. E. Saalfeld.—p. 598.
*Change of the Water Spirochete into Spirocheta Icterogenes. P. Uhlenhuth and E. Herrmann.—p. 599.
Pediculus Capitis and Pediculus Vestimenti. L. Freund.—p. 601.
Thyroxin in Obesity. A. Hartung.—p. 603.
"Pediatrics and the School Physician." L. Hoffa.—p. 604.
Reply. P. Karger.—p. 605.
Injuries to the Locomotor Apparatus from Athletics. W. Baetzner.—p. 606. C'td.
The Ability to Work. H. Engel.—p. 607.
Vitamins. F. Haurowitz.—p. 610.
Politics? Politics! E. Loewy-Hattendorf.—p. 625.

Change of the Water Spirochete Into Icterohemorrhagiae.—Uhlenhuth continued with Herrmann the investigations which he had started with Zuelzer. They succeeded again in transforming saprophytic spirochetes obtained from water and grown on mediums containing rabbit's or rat's serum into typical spirochetes of Weil's disease. Even the immunologic properties changed. Part of their experiments were carried out by first passing the strain through rats, part were done directly on guinea-pigs.

23: 627-666 (April 29) 1927

*Stimulation Treatment. W. Stoeltzner.—p. 627.
Pathogenesis of Stammering. R. Imhofer.—p. 628.
*Tetraglucosan in Treatment of Diabetes. H. Petow and F. Rothschild.—p. 631.
Cholecystography with Oral Method. M. Cohn.—p. 635.
Amebiasis. A. Gehrcke.—p. 637.
*Iritis from Recurrent Fever. I. Sachs.—p. 640.
Tuberculosis. K. Trommer and W. Hebenstreit.—p. 641.
Globulin and Albumin of the Serum. G. Lewin.—p. 643.
Dermoid Cyst of the Brain. G. Kopřiwa.—p. 645.
Obstetric and Gynecologic Treatment. G. Burckhard.—p. 646.
Ability to Work. H. Engel.—p. 648.
Cardiovascular Diseases. E. Edens.—p. 650.

Stimulation Treatment.—Stoeltzner injected in children glycocoll, an abiuret mixture of peptids and amino-acids and aqueous solutions of the volatile oils of various condiments, hoping to obtain a stimulating effect without the by-effects of proteins. The results were negative.

Tetraglucosan in Treatment of Diabetes.—Petow and Rothschild had good clinical results in diabetes with administration of a proprietary form of tetraglucosan. The patients tolerated from 50 to 150 Gm. of it and the acetonuria diminished.

Iritis from Recurrent Fever.—Sachs reports two cases of iritis in syphilitic patients who had been treated with recurrent fever.

23: 667-706 (May 6) 1927

Infraclavicular Tuberculous Infiltration. H. Dorendorf.—p. 667.
*Goldschmidt's Pulse Resonator. F. Kraus and S. Seelig.—p. 670.
Eunuchoidism and Height. W. Seidel.—p. 672.
"Sanocrysin" Treatment. K. Pur and H. Pohl.—p. 673.
A Renal Function Test. F. Lebermann.—p. 676.
Economic Gravity of Injury to Pianist's Hand. J. Flesch.—p. 678.
Deep Lipoma of the Forearm. F. Schulte.—p. 679.
Amebiasis in Man. A. Gehrcke.—p. 679.
Atypical Extragenital Chancres. M. Krüger.—p. 681.
"Treatment of Beginning Cataract." R. Salus.—p. 682.
"Vasoconstrictive Neurosis of the Female Nipple." Warnecke.—p. 683.
Action of the Pericardium on the Vascular System. G. Hauffe.—p. 684.
Uterine Hemorrhage and Grave Neurosis. W. Brandis.—p. 690.
Psychanalytic Literature. K. Fahrenkamp.—p. 691.
Hygiene Section of League of Nations. B. Möllers.—p. 704.

Goldschmidt's Pulse Resonator.—Kraus and Selig discuss the results obtained with R. Goldschmidt's pulse resonator. This is an instrument that records the frequency of the pulse and measures the intervals with extreme minuteness in a manner analogous to that in which tuning forks analyze sounds. The pulse is really regular ("rigid") only in great fatigue or sleepiness. Otherwise, its frequency changes about four to six times in a minute.

Münchener medizinische Wochenschrift, Munich

74: 707-746 (April 29) 1927

Scarlet Fever Antitoxin. J. Husler.—p. 707.
*Secretion of Cerebrospinal Fluid. O. Hirsch-Tabor and H. Vollmar.—p. 709.
*Acid-Base Balance of Food. A. Hermannsdorfer et al.—p. 711.
*Roentgen-Ray Treatment of Gonorrheal Arthritis. G. Schulte.—p. 717.
*Morphine Addiction as War Injury. W. Steimann.—p. 719
Relation Between the Organism and Cancer. A. Theilhaber.—p. 721.
A New Model of a Hospital Cart. O. Vulpius.—p. 721.
Rickets. M. Pfaundler.—p. 721. C'cn.
A Physician's Thoughts on Medicine. A. Bier.—p. 726.
*Early Diagnosis of Malignant Tumors of the Maxilla. A. Krecke.—p. 729.

Secretion of Cerebrospinal Fluid.—Hirsch-Tabor and Vollmar confirm Dixon and Halliburton's observations on the increased secretion of cerobrospinal fluid in animals after intravenous injection of human cerebrospinal fluid with a positive Wassermann reaction. They had only exceptional success with injections of extracts of the brain or of the choroid plexuses.

Acid-Base Balance of Food.—Hermannsdorfer, Jung and Stein demonstrate that Ragnar Berg made a mistake when calculating the acid or alkaline value of minerals in metabolism according to simple chemical rules. For instance, calcium lactate acts in the acid sense, and lactic acid appears in the urine. The resorption of different minerals in the intestine is another uncontrollable factor. They prove experimentally that Gerson's mineral mixture tends to make the urine acid, although Berg computed that basic ions prevail in it.

Roentgen-Ray Treatment of Gonorrheal Arthritis.—Schulte reports good results in four cases.

Morphine Addiction as War Injury.—Steimann suggests that compensation for morphine addiction should be refused after such an invalid has been subjected to regular treatment. He believes that it will be necessary to have every addict declared legally incapable of managing his affairs for the time of his stay in the hospital. He believes that an addict is entitled to damages from the physician who supplies him with morphine. He warns physicians most decidedly against giving a morphine injection to themselves or to other physicians. About 1,000 German physicians are addicts, according to his estimate

Early Diagnosis of Malignant Tumors of the Maxilla.—Krecke regards any swelling of the maxilla which lasts for more than two weeks as a possible malignant tumor. Not much time should be wasted on antisyphilitic treatment. Neuralgia of the second branch of the trigeminus should always suggest the possibility of cancer. The same applies to empyema. Slight edema of the conjunctiva or diplopia are other probable signs. A negative result of roentgen-ray examination does not, by any means, exclude the possibility of a malignant growth.

Virchows Archiv für path. Anat. und Physiol., Berlin

263: 591-848 (Feb. 17) 1927

Hypoplasia of the Pancreas. B. Kriss.—p. 591.
Malformations of the Diaphragm. P. Cartellieri.—p. 599.
Malformation of the Bladder in the Human Embryo. R. Chwalla.—p. 632.
Infantilism Due to Absence of Ovaries. P. Schürmann.—p. 649.
Dermatologic Diagnosis of Univitelline Twins. H. W. Siemens.—p. 666.
*Jaundice of New-Born Calves and Infants. E. Metzger.—p. 703.
*Prospective Potencies of Myeloblasts. A. D. Timofejewsky and S. W. Benewolenskaja.—p. 719.
Structure of Erythrocytes. M. Gutstein and G. Wallbach.—p. 741.
Pentastoma Nodes in the Human Liver. K. Sonobe.—p. 753.
Fat Metastasis in Diabetes. M. Goldzieher.—p. 769.
Gynecomasty and Syncytioma Malignum in the Male. H. Herzenberg.—p. 781.
Fibrinous Bronchitis and Tuberculosis. A. Stapf.—p. 800.
*Glycogen in the Liver in Anterior Poliomyelitis. M. Nordmann.—p. 832.
Pathologic Anatomy of the Vegetative Nervous System. B. Mogilnitzky.—p. 839.

Jaundice of New-Born Calves.—Metzger observed jaundice in *504* out of *4,000* calves; it was present in twenty-four of *322* examined shortly after birth. He attributes the phenomenon in the latter case to the immature condition of the liver, which persists for days or weeks after the calf is born.

Prospective Potencies of Myeloblasts.—Timofejewsky and Benewolenskaja explanted the leukocytes from the blood of a patient with acute myelogenous leukemia. They observed an abundant granulopoiesis and also formation of lymphocytes. They believe that the latter may have formed from the myeloblasts rather than from the lymphocytes, of which the explanted blood contained only 3 per cent.

Glycogen in the Liver in Anterior Poliomyelitis.—Nordmann found an apparent increase in the amount of glycogen in the liver of a boy who died with signs of respiratory paralysis from acute anterior poliomyelitis. Edema and infiltrates were present in the region of the nucleus of the area cinerea.

Wiener klinische Wochenschrift, Vienna

40: 577-608 (May 5) 1927

Mechanism of Malaria and Quinine Treatment. B. Busson.—p. 577.
Prosthesis After Extirpation of the Mandible. V. Orator and Stephanides.—p. 581.
Antivirus in Purulent Infections. P. Moritsch and R. Oppolzer.—p. 585.
Postencephalitic Narcolepsy. G. Stiefler.—p. 586.
Tattooing of the Cornea with Gold Chloride. A. M. Rosenstein.—p. 587.
*Treatment of True Melena of the New-Born. R. Holländer-Pilpel.—p. 589.
Arsphenamine and Gastric Ulcer. K. Herman.—p. 590.
Practical Value of Tuberculin Tests. H. Poindecker.—p. 592.
Cardiac Asthma. R. Singer.—p. 594.
Nephritis and Its Treatment. L. Jehle. Supplement.—pp. 1-20.

Treatment of True Melena of the New-Born.—Holländer-Pilpel's patient recovered after transfusion of 30 cc. of his mother's blood.

40: 609-640 (May 12) 1927

Development of Cancer from Complex Irritation. M. Askanazy.—p. 609.
Intracutaneous Injection of Living Gonococci. M. Hesse and M. E. Obermayer.—p. 613.
The Dick Test. O. Tezner and G. Ungar.—p. 616.
Primary Cancer of the Lungs. K. Ferenczy and T. Matolcsy.—p. 618.
*Spontaneous Pneumothorax in a Previously Healthy Lung. O. Hitschmann.—p. 622.
Herpes Zoster in Angina Pectoris. R. Wertheimer.—p. 623.
"Cough in Nontuberculous Children." F. Hamburger.—p. 624.
Diet in Health and Disease. R. Bauer.—p. 624.
Treatment of Chorea. H. Mautner.—p. 627.
Life Expectation After Surgical Interventions. J. Schnitzler. Supplement.—pp. 1-12.

Spontaneous Pneumothorax in a Previously Healthy Lung.—Hitschmann's patient was a young man who developed a spontaneous pneumothorax while taking a shower bath. There were apparently no other pathologic changes in the lung. At first the treatment consisted only in rest. Since the pneumothorax did not change in four weeks, a cannula was introduced into the pleural cavity. An attached valve allowed the air to pass from within outward, but not in the opposite direction. The lung was fully expanded in a day and the patient recovered after a transient exudate.

Zeitschrift f. d. ges. experimentelle Medizin, Berlin

54: 317-592 (Feb. 21) 1927

*Experiments on Splenic "Lock." N. Henning.—p. 317.
Movements of the Fasting Stomach. W. Iwanow.—p. 326.
Electrolytes of Blood from Inflamed Tissues. L. Tutkewitsch.—p. 342.
Trophic Innervation of the Tongue Muscle. K. Kuré et al.—p. 351.
Trophic Innervation of the External Eye Muscles. K. Kuré et al.—p. 366.
Electric Irritability of Denervated Muscle. K. Kuré et al.—p. 382.
Cholesterol Metabolism. H. J. Arndt.—p. 391.
Changes of Permeability from Insulin. W. F. Petersen and E. F. Müller.—p. 415.
*Alimentary Hyperglycemia. W. Grunke and K. Hesse.—p. 439.
*Inhalation of Organic Acid. W. Arnoldi et al.—p. 457.
Reversion of Hemolysis. W. Starlinger.—p. 464.
*Occlusion of Intestine and Deprivation of Water. C. Häbler.—p. 524.
*Disturbances of Movement After Section of Corpus Callosum. F. Hartmann, Jr., and W. Trendelenburg.—p. 578.

Experiments in Splenic "Lock."—Henning did not find dye in the spleen of animals injected intravenously with trypan blue, or india ink and killed immediately thereafter. This is a confirmation of the existence of a splenic "lock" similar to the functional hepatic lock discovered by Pick and Mautner. Cooling of the animals enhances the phenomenon to such an extent that the spleen does not bleed after being injured. Urethan anesthesia opens the "lock" in both cases. Bacterial infection of the blood also seems to produce splenic lock.

Alimentary Hyperglycemia.—Grunke and Hesse confirm the absence of epinephrine hyperglycemia in starving rabbits. Introduction of 2 Gm. of dextrose into the stomach was, however, followed by the typical curve. This speaks against the "stimulation" theory of alimentary hyperglycemia. They emphasize the advantages of their technic of administration of sugar: they introduce a semielastic silk catheter (no. 6 Charrière) through the nose of the rabbit into the stomach.

Inhalation of Organic Acid.—Arnoldi, Oda and Rosa investigated the results of inhalation of formic acid, which was recommended by von Kapff sixteen years ago for prevention and treatment of respiratory diseases. They found, as a rule, increased respiratory volume and oxygen consumption. They believe that pulmonary administration of acid valences increases the dissociation of oxygen, loosens its fixation and by these means improves its consumption. On Arnoldi's theory that a disturbance of oxidative processes with accumulation of acid valences in the blood is the cause of some cases of insomnia, they extend the indications to this symptom.

Occlusion of Intestine and Deprivation of Water.—Häbler describes his modification of London's angiostomy. With it he investigated the blood changes in experimental ileus. Besides the loss in water, which is not so great as to prove fatal, he regards alkalosis as an important factor of the syndrome.

Disturbances of Movement After Section of Corpus Callosum.—Hartmann and Trendelenburg sectioned the corpus callosum in cats and monkeys. The absence of changes in the movements of these animals did not occur; apraxia is especially noted.

Zentralblatt für Chirurgie, Leipzig

54: 641-704 (March 12) 1927

*Posttonsillitic Sepsis. R. Bertelsmann.—p. 642.
Functional Treatment of Flat-Foot in Infants. G. Brandt.—p. 645.
Dextroposition of the Large Intestine After Operation. C. Hammesfahr.—p. 647.
Operative Treatment of Habitual Dislocation of the Shoulder. Z. Heymanowitsch.—p. 648.
Etiology of Köhler's Disease of the Second Metatarsal. M. Meyer.—p. 651.
Standardization in Hospital Equipment. R. Mühsam.—p. 654.
The Pleasantest General Anesthesia. G. von Lobmayer.—p. 659.
*Fabella and Loose Body in the Knee. E. Sonntag.—p. 660.
Retroperitoneal Adenosarcoma Simulating Appendicitis. S. Lindqvist.—p. 662.

Posttonsillitic Sepsis or Bacteriemia.—In a case of sepsis of nine days' duration, which followed tonsillitis with paratonsillar abscess, Bertelsmann exposed but did not ligate the internal jugular vein. Streptococcic edema, not pus, was found. Venous thrombosis was not present. The patient recovered.

Fabella and Loose Body in the Knee.—A girl was referred to Sonntag for operation for loose body in the knee. The roentgenogram which she brought with her showed, not a loose body, but a fabella. A slight effusion and limitation of motion were, nevertheless, present in the joint and Sonntag ordered further roentgenograms to be taken. These showed both fabella and loose body, the latter between the femur and the patella. The anterior view showed the fabella situated mesially in the articular space, a roentgenologic site not heretofore reported in the German literature.

Zentralblatt für Gynäkologie, Leipzig

51: 513-576 (Feb. 26) 1927

Value of Capillary Microscopy in Eclampsia. T. Heynemann.—p. 518.
*Betain in Human Amniotic Fluid. F. Kirstein.—p. 522.
Hemorrhages After Roentgen-Ray Castration. H. E. Scheyer.—p. 523.
Tetany After Gynecologic Operations. A. Szenes.—p. 528.
An Abdominal Pregnancy Continuing to Term. O. V. Timoschenko.—p. 531.
Finger Prints in the Question of Paternity. K. Bonnevie.—p. 539.
*Ventrifixation of the Round Ligament. P. Rissmann.—p. 543.
*Results with Baldy-Frank's Operation. K. Otto.—p. 545.
Dienst's Serologic Diagnosis of Pregnancy. E. Derankova.—p. 548.

Betain in Human Amniotic Fluid.—Kirstein demonstrated betain in the human amniotic fluid. This confirms the belief that the amniotic fluid is not fetal urine.

Ventrifixation of the Round Ligament Without Danger of Ileus.—In Rissmann's method, which he has used successfully in one hundred cases of retroflexion with adhesions, only the lateral portion of the round ligament is sutured to the abdominal wall. The method is described.

Results with the Baldy-Frank Operation for Retroflexion.—In fifty-six of sixty women, reexamined more than six months after the operation, the uterus was in anteflexion. In the four other women the results were fair. There had been fourteen pregnancies, including eight carried to term, four still continuing and two abortions, one criminal, the other without known cause.

51: 577-640 (March 5) 1927

Is Menstruation Necessary to Woman's Health? B. Aschner.—p. 577.
*The Peripheral Circulation After a Labor Pain. W. Haupt.—p. 595.
*Tubal Implantation. F. Unterberger.—p. 602.
Protest Against Ambulatory Curettage. H. Walther.—p. 606.
*Microscopic Examination of Blood from the Uterus. H. Rotter.—p. 607.
*Exphthalmic Goiter After Roentgen-Ray Castration. A. Ujma.—p. 610.
Spontaneous Rupture of Uterus in Pregnancy. F. Thomä.—p. 614.
Case of Ectopia Cordis Pectoris. S. Bloch.—p. 625.
Artificial Sterilization of the Woman. R. Schreiner.—p. 627.
Technic of Tubal Sterilization. K. N. Rabinowitsch.—p. 634.

The Work of the Periphereal Circulation Shortly After a Labor Pain.—Haupt arrives at a value representing the work of the pulse by measuring simultaneously the pulse volume and the blood pressure. He studied these "pulse-work-values" on a large number of healthy parturient women and found that they were frequently higher after a labor pain than while it was going on or during the interval. This rise was more often noted after a slight than after a severe pain. It was greater in the second than in the first stage of labor, and in restless than in quiet patients. The increase was usually from one eighth to one fifth of the initial (interval) value, but a value equal to twice the initial value was sometimes reached.

Tubal Implantation.—This operation has been performed by Unterberger six times, with two successes, the second of which is here reported. The right tube was excised, as useless. The isthmic portion of the left tube, which presented nodular thickening, was resected. About 6 cm. of the tube remained. The uterine end was slit longitudinally into two segments and the tube was implanted in the fundus of the uterus, which was opened by a sagittal incision. He lays stress on the slitting, as essential to success. Three months after the operation, the woman, a nullipara, aged 33, with a history of one spontaneous abortion five years before, conceived. She is now in the fifth month of pregnancy.

Microscopic Examination of Blood from the Uterus.—Rotter found that in menstrual blood the number of polymorphonuclear leukocytes rose from the first day on, while that of the lymphocytes fell. The opposite was the case in peripheral blood. In inflammatory diseases of the genital organs, the menstrual blood was the same as in health, but the blood of intermenstrual bleedings exhibited leukocytosis-lymphopenia. In fibromyoma also, the menstrual blood was normal, while the blood of intermenstrual hemorrhage differed from normal menstrual blood in having standard values. In uterine carcinoma a decided lymphocytosis-leukopenia was present. If confirmed, this characteristic should simplify the early diagnosis. The technic of obtaining the blood is described, and Rotter notes that further researches are in progress.

Exophthalmic Goiter and Roentgen-Ray Castration.—A woman, age not stated, of neurotic tendency, underwent roentgen-ray castration for hemorrhages from polypous growths in the uterus. The procedure was rapidly followed by symptoms of exophthalmic goiter. The basal metabolism and the leukocyte count have not been determined, because of the patient's objection to examinations, but the clinical picture resembles that of exophthalmic goiter in all particulars. Ujma suggests that operation, respecting the ovaries, should be preferred to castrating treatment by roentgen rays in patients with nervous disturbances.

Zentralblatt für innere Medizin, Leipzig

48: 473-488 (May 7) 1927

*Diseases Caused by Dyes and Cleaning Fluids. H. Schmidt-Lamberg.—p. 474.

Diseases Caused by Dyes and Cleaning Fluids.—Schmidt-Lamberg publishes statistics on the occupational diseases of cleaners and dyers. The gases from cleaning fluids caused a considerable number of diseases of the lungs, bronchi and larynx. Abscesses and septic conditions occurred in many cases and caused eighteen deaths in Prussia. It is probable that the gravity of the process would have been less, if the workers had taken care of small injuries, instead of exposing them repeatedly to the cleaning fluids and dyes.

Klinicheskaya Meditsina, Moscow

5: 211-273 (Feb.) 1927. Partial Index

Clinical Diagnosis of Myocardiac Infarction. B. A. Egoroff —p. 229.
Torticollis of Extrapyramidal Origin. N. M. Itsenko.—p. 242.
*Oxygen in Treatment of Parkinson's Disease. L. S. Sholomovich and N. A. Tolokonnikoff.—p. 249.
*Surface Tension of the Urine in Skin Diseases. I. Basilevich and V. Popel.—p. 253.

Oxygen in Treatment of Parkinson's Disease.—Sholomovich and Tolokonnikoff report the results of the treatment in eleven patients. A daily dose of 400 or 500 cc. of oxygen was injected subcutaneously. A series consisted of from twenty to thirty-two injections. After an interval of from two to six weeks, the series was sometimes repeated. The general weakness, slowness and stiffness of motion and the masklike expression of the face, were improved in eight cases. The gait improved in five; the tremor became less rapid in six. The speech was ameliorated in four, in two very markedly. In three, the rate of twitching was reduced from fifty to from three to five times a minute. The results have persisted during the eight months that the patients have been under observation.

Variations in Surface Tension of the Urine in Skin Diseases.—The surface tension of the urine was examined by Bazilevich and Popel in 103 patients with various skin diseases. It was altered in 22.3 per cent of the cases. In persons with psoriasis vulgaris, lupus vulgaris or urticaria, it was decreased. In lupus vulgaris, the changes in the tension are secondary, while in urticaria, they may be primary, testifying to considerable disturbances in the hepatic functioning. The facts may throw light on the etiology of many skin lesions, the cause of which is yet uncertain.

Hospitalstidende, Copenhagen

70: 287-310 (March 31) 1927

*The Cholesterol Content of the Blood in Different Diseases. K. Barmvater.—p. 287.
Are the So-Called "Extrapyramidal Neurons" Uncrossed? V. Christiansen.—p. 296.

The Cholesterol Content of the Blood in Different Diseases.—Grigaut's method was used by Barmvater in their study. The results are arranged in three groups. The first consists of the normal cholesterol content of the blood serum, which he places at 0.202 per cent. The second group consists of the high values and the third of the low values, both having pathologic significance. In diabetes mellitus the cholesterol content is frequently normal or raised; it was as high as 0.55 per cent in one instance and as low as 0.114 in two. The same is true of certain types of icterus, although for hematogenous icterus he found very low values. In Basedow's disease and in pneumonia the values are low or nearly normal. In nephritides normal values are sometimes found, but in nephroses they were as high as 0.600 per cent. In anemias and leukemias the values are specially low, reaching 0.050 per cent. These results agree very well with most of the previous investigations.

Norsk Magazine for Lægevidenskapen, Oslo

88: 345-424 (May) 1927

*Exhausted Heart. N. B. Grøndahl.—p. 345.
Erysipeloid. O. Lundt.—p. 360.
Para-Articular Arthrodesis of the Hip-Joint from Nontuberculous Diseases. S. Widerøe.—p. 364.
Primary Tumors in Joint Capsules. F. Harbitz.—p. 369.

Exhausted Heart, Amentia Caused by Necrosis of the Tissue.—Grøndahl describes an interesting case. A man, 44 years old, had been a very efficient sportsman in his youth—especially in skiing and football. During recent years he had not been training, but had played football. For many years, he had had slight attacks of collapse. He did not use tobacco or alcohol. In August, 1925, he had a severe attack of heart failure supposed to be caused by myocarditis and dilatation. There was violent arrhythmia. Three weeks later emboli were carried to the vessels of the lower leg. Embolectomy was performed only fifteen hours after the appearance of the embolus but improvement did not follow. A psychosis of the amentia type developed, which was supposed to be due to intoxication from advancing gangrene of the right leg. Amputation was done, but the surgeon did not go high enough. After twelve days reamputation was performed without complications. After a period of comparatively good health emboli appeared in the spleen. The same psychosis occurred and lasted until his death, in November, 1925. Necropsy showed some myocarditis with dilatation of the heart, emboli and an enlarged spleen. Grøndahl's opinion is that the patient's heart disease was due to repeated violent overexertion during the football matches, which form of sport is dangerous to older people. Signs of simultaneous degeneration of the liver of any considerable degree were not found.

Ugeskrift for Læger, Copenhagen

89: 365-390 (May 5) 1927

Accidents from Electricity. J. Fog.—p. 365. C'cn.
Metal Salt Therapy. O. Helms and J. Frederiksen.—p. 371.
An Observation on Insulin Treatment. E. Faber.—p. 376.
*Subcutaneous Air Emphysema. C. Slemmesen.—p. 377.
*Attempted Suicide with Insulin. K. Secher.—p. 378.

Subcutaneous Air-Emphysema.—Clemmesen describes the case of a boy, 18 years old, who was butted by a bull and developed air emphysema of the left thorax and the left side of the abdomen. The scrotum became as large as a child's head and after one hour both eyes were closed. Breathing was difficult, especially on expiration. The pleura was incised and the dyspnea diminished almost at once. A thick rubber drainage tube was placed in the pleural cavity and the incision closed air-tight. The tube was long enough to reach the bottom of a pan of water on the floor. The air passing through the lung lesion on inspiration was on expiration forced out through the tube, as shown by the air bubbles coming up through the water. The drain also gave escape to the 200 or more cubic centimeters of blood that had accumulated in the pleural cavity. The dyspnea disappeared quickly, also the subcutaneous emphysema. The day after the operation the lung lesion had probably closed as the bubbling from the tube had ceased; after four days the hemorrhage stopped, and the wound healed by granulation. Eleven days after the operation a comminuted fracture of the left fifth rib in the axilla was found, but both lobes of the lung were entirely unfolded, and there was no discharge from the lung.

Attempt at Suicide with Insulin.—Secher reports a case of a patient, aged 28, with long standing diabetes, who under an attack of depression took a single massive dose of 60 units of insulin with suicidal intent. Immediately he regretted what he had done and took two tablespoonfuls of sugar; he recovered. Secher suggests the possibility of murder being committed with this substance by experts, in which case the cause of death would be difficult to prove at necropsy.

89: 391-410 (May 12) 1927

Accidents from Electricity. E. von Holstein Rathlou.—p. 391. C'td.
*Glycosuria in Medical Practice. J. E. Holst.—p. 396.

Benign Glycosuria.—Holst has examined 150 persons who were denied life insurance on account of glycosuria. They were under observation for from five to sixteen years and in 70 per cent no symptoms of diabetes mellitus could be found. In an examination of carbohydrate metabolism, three factors must be known. One is the value of the fasting blood sugar, the other the increase in blood sugar after ingestion of carbohydrates, the third the threshold value of glycosuria. He quotes the following case: When the patient was 16 years old glycosuria was accidentally discovered; this has always persisted. The first year the patient was on a diet low in carbohydrates, but could not be made sugar-free. Gradually he gave up the diet and the glycosuria did not increase and his condition after fourteen years remains unchanged. He has never had any other symptoms of diabetes and the glycosuria never bothered him.

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. 89, No. 6 CHICAGO, ILLINOIS August 6, 1927

NEED FOR RESEARCH IN THE TREATMENT OF EPIDERMOPHYTOSES *

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Cultural studies of the pathogenic fungi have offered so much of interest and promise that other phases of the epidermophytoses have been relatively neglected. I do not minimize the importance of determinative mycology, nor would I suggest that it give way to other investigation: but it is evident to many dermatologists that our present methods of treatment are far from satisfactory.

During the past decade widespread interest in the fungous infections has been stimulated by an ever increasing number of papers on the subject from all parts of the civilized world, and by an ever increasing number of clinical cases, both in public and in private practice. Very little attention, however, has been devoted to the purely therapeutic side of the question. It is a noteworthy fact that the first intensive laboratory attack on the problem was made in this country by Schamberg and Kolmer,[1] who determined the fungicidal and fungistatic properties of various drugs and chemicals. Another valuable contribution to the subject was made by Myers and Thienes,[2] and from these studies came their formula for the alcoholic solution of cinnamon oil and thymol, which in my experience has been a very valuable preparation. More recently Lortat-Jacob and Bidault [3] have studied the fungicidal and fungistatic properties of chinosol on both the fungi of frozen meat and some of the pathogenic fungi. They found that in a dilution as high as 1:25,000 the saprophytic organisms were restrained but not killed. The pathogenic fungi were more easily restrained and were killed in dilutions of 1:400 after twelve hours, with the exception of *E. inguinale*. Lesions produced by the latter organism, however, readily yielded to the following formula:

Chinosol	5 to 1
Alcohol (90 per cent)	50
Glycerin	20
Water	150

Dissolve the drug in the water and add the alcohol and glycerin.

The authors find that this preparation is especially valuable in protecting the normal skin from invasion by the parasite.

Those of us who attended the annual meeting of the American Dermatological Association last week had the good fortune to hear the paper by Dr. Kingery, and now we are about to have another contribution to the treatment by Dr. Sharlit and Dr. Highman. The appearance in the dermatologic literature of these papers on researches in therapeusis is one of the most promising indications of the trend of mycotic investigation.

The absence of any method of treatment of the superficial mycoses giving uniformly satisfactory results was well brought out by the symposium on the subject at the annual meeting of the American Dermatological Association in 1926. Charles J. White,[4] discussing the clinical aspects and treatment, said that "the local treatment of this disease has proved most disappointing and disconcerting to the patient and to the physician, and this statement is equally applicable in England, France and America. The Englishman has relied on Whitfield's ointment, the Frenchman on tincture of iodine and on chrysarobin, and the Americans have tried many things, and all in all have failed. The possible duration of the disease up to thirty years seems to corroborate this pessimism."

This pessimistic view is quite generally shared by the dermatologists of the United States, but not by all men in other departments of medicine. In reply to a communication from a committee of the Chicago Dermatological Society urging investigation of the fungous diseases, Surgeon General Cumming said: "In the meantime it has been our impression that the improved methods of treatment have reduced considerably the seriousness of the situation." It is an interesting fact that in the Middle West, at least, the more common manifestations of mycotic infection of the hands and feet are readily recognized by men in general practice, but only one method of treatment, namely, Whitfield's ointment, seems to be generally known to them. As an example of this, I have a patient under observation who had been treated for six months with this ointment. There was a history of mild infection, but with constant daily use of the ointment a dermatitis had been set up which gradually ascended bilaterally to the knees. Finally, when the patient complained of not making progress he was told that that ointment was the recognized treatment for ringworm of the toes, and if he failed to recover it was his own fault. Physicians, knowing that ringworm usually manifests itself as a vesicular eruption, assume that all vesicular eruptions are therefore mycotic, much to the discomfort of the patient and the discomfiture of the physician.

The importance of diagnosis in the treatment of the intertriginous mycoses cannot be overstressed. In 1919

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* Chairman's address, read before the Section on Dermatology and [illegible] ighth Annual Session of the American Med- [illegible] D. C., May 18, 1927.

[1] Schamberg, J. F., and Kolmer, J. A.: Studies in the Chemotherapy of Fungus Infections, Arch. Dermat. & Syph. **6**: 746 (Dec.) 1922.

[2] Myers, H. B., and Thienes, C. H.: The Fungicidal Activity of Certain Volatile Oils and Stearoptens, J. A. M. A. **84**: 1985-1986 (June 27) 1925.

[3] Lortat-Jacob and Bidault: Bull. Soc. Dermat. & Syph., December, 1926, p. 719.

[4] White, C. J.: Fungus Diseases of the Skin, Arch. Dermat. & Syph. **15**: 398 (April) 1927.

C. J. White[5] reported a series of 192 epidermophyton infections on various parts of the body without microscopic demonstration of the organism. Recently[6] he has said that the organism need not be found before making the diagnosis. An experienced observer like Dr. White may well be able to dispense with the microscope, especially in the chronic, macerated conditions about the toes; but the attempts of the inexperienced clinician to do so may be followed by disaster. Eczematoid ringworm has now become such a common disorder, and so many physicians are treating it that I am of the belief that we should impress on medical students the importance of firmly establishing the diagnosis by microscopic examination before beginning active fungicidal treatment. In fact, I am of the opinion that, if we are to make further progress in the management of this group of infections, we should make not only routine microscopic examinations but routine cultures as well. Otherwise, how are we to settle such a moot point as that of dyshidrosis, the existence of which has been denied by Darier and Eliascheff[7] on microscopic examination alone, by Pinkus and others, and ably defended recently by Keller,[8] who insists that there are undoubtedly eruptions occurring in hot weather on the extremities of persons doing violent exercises, which clear in a few days without leaving a trace? A significant fact is pointed out by Keller in that the vesicle content in such cases is acid. Or how are we to settle the question raised by Sabouraud[9] as to whether a streptococcus or a yeast is the exciting organism in certain forms of intertriginous inflammations of the natural folds of the body? Or how are we to make a diagnosis of the sporothrices, the organisms of which, as a rule, cannot be found by direct microscopic examination? This last question has recently assumed importance in view of the fact that Benedek[10] has reported a case of sporotrichosis purely epidermal in character and having the appearance of superficial ringworm.

The complexity of the clinical manifestations of the superficial mycoses is growing day by day. In his early writings Sabouraud taught that a given fungus produced more or less constant clinical symptoms; that not only was eczema marginatum always due to *E. inguinale*, but that most of the hand and foot cases likewise were produced by that fungus. He further maintained that a given fungus grown on his proof medium would always appear the same.

All three of these postulates of Sabouraud are now giving way to the rapidly accumulating mass of investigative data. The marked variations in the clinical manifestations and the virulence of a given strain are well demonstrated by a series of cases reported by Rosenbaum.[11] A 10 year old child with a few insignificant scaling lesions on the face infected the laboratory assistant, who promptly developed severe, deep-seated kerion lesions in the bearded region, which resisted treatment and continued to recur for months. In sharp contrast, his wife acquired from him a few superficial scaling lesions which yielded to an application of iodine. In all three cases, *T. gypseum-granulosum* was grown. The same author reports another series of cases consisting of a mother, a 10 year old daughter and an infant. The mother was first treated for a coin-sized patch back of the ear. Later the child appeared with deeply infiltrated hand-sized lesions on the thighs and legs, and still later the infant was seen with a generalized superficial eruption having the clinical appearance of eczema marginatum. The fungus in this group was found to be *T. gypseum-asteroides*. At the same clinic of Buschke in Berlin, Harry[12] observed three cases of ringworm of the scalp due to *T. rosaceum*, and a case of typical eczema marginatum in a 4 months old infant produced by *T. gypseum-asteroides*.

Kauffmann-Wolff was one of the first to demonstrate that *E. inguinale* was not the common but the occasional exciting organism. My own[13] observations agreed in the main with hers, both as to the comparative rarity of *E. inguinale* and as to the frequency of the Kauffmann-Wolff organism, which is regarded by some as a pleomorphic form of that fungus. Ballagi,[14] in a series of 800 cultures of fungi in Budapest, grew *E. inguinale* sixty-three times. Most of the infections resulted from hot dressings in hospitals, and only four times was it grown from hand and foot cases. Keller,[8] in a series of thirty-five cases of hand and foot infections, grew *E. inguinale* only once, as against twelve cultures of the Kauffmann-Wolff organism and fourteen cultures of blastomycetic organisms. *E. inguinale*, however, may do the most unexpected things, as, for example, invade the nail in the unique case reported by Brünaur,[15] or produce an eruption on the body and in the scalp having all the characteristics of pityriasis rosea, and being clinically indistinguishable from that disorder, as in the case observed by Arzt and Fuhs.[16] Such cases as these emphasize the importance of routine cultures.

The third postulate of Sabouraud concerning the constancy of cultural characteristics has come to be doubted by various investigators. The most important step in proving or disproving it consists in the elaboration of a proof medium on a chemical basis which can be duplicated at will in any part of the world. Marked variation in cultural characteristics of a given strain may occur, however, when grown on a constant medium. Weidman[17] has shown that a fungus from cultures regularly taken of his toes for years suddenly changed in characteristics amounting almost to mutation. Keller[8] has found similar variations in the Kauffmann-Wolff organism and other fungi and suggests that cultural characteristics may be greatly modified by changed conditions, such as sweating of the part from which the culture is made. He also warns against accepting new species on insufficient evidence, and is inclined to minimize the pathogenic rôle played by fungi, especially the yeasts. He points to the rapid involution of experimentally produced yeast infection in the absence of treatment in contrast to the rebelliousness to treatment of acquired infections.

Before the treatment of the superficial mycoses can be put on a scientific basis, this last question raised by Keller must be answered. Ten years ago there were many dermatologists who were skeptical of the pathogenicity of the fungi in the hand and foot infections, and I well remember being called on repeatedly by Dr. William Allen Pusey and others in discussion of the subject to defend my belief. Later, however, the skeptics were all converted, and so thoroughly that the dominant therapeutic idea became one of applying active fungicidal agents, with the result that the epidermophytoses have been much overtreated and the nonmycotic vesicular eruptions have been much irritated.

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[5] White, C. J.: J. Cutan. Dis. **37**: 513, 1919.

[6] White, C. J., in discussion on Williams, C. M.: The Enlarging Conception of Dermatophytosis, Arch. Dermat. & Syph. **15**: 467 (April) 1927.

[7] Darier and Eliascheff: Lancet **2**: 578 (Sept.) 1919.

[8] Keller: Dermat. Ztschr. **49**: 33, 1926.

[9] Sabouraud: Ann. de dermat. et syph., July, 1923, p. 425.

[10] Benedek: Dermat. Wchnschr. **83**: 1696, 1926.

[11] Rosenbaum: Dermat. Wchnschr. **78**: 99 (Jan. 26) 1924.

[12] Harry: Dermat. Wchnschr. **76**: 500, 1923.

[13] Ormsby, O. S., and Mitchell, J. H.: Ringworm of Hands and Feet, J. A. M. A. **67**: 711 (Sept. 2) 1916. Mitchell, J. H.: Further Studies on Ringworm of the Hands and Feet, Arch. Dermat. & Syph. **5**: 174 (Feb.) 1922.

[14] Ballagi, S.: Dermat. Wchnschr. **83**: 1155 (Aug. 7) 1926.

[15] Brünaur: Dermat. Ztschr. **35**: 148, 1927.

[16] Arzt and Fuhs: Dermat. Ztschr. **41**: 97, 1924.

[17] Weidman, F. D.: Morphologic Variations in a Ringworm Species of the Toes, Arch. Dermat. & Syph. **13**: 374 (March) 1926.

As an aid in solution of the question of the pathogenicity of the fungi in the epidermophytoses, the various trichophytin preparations have been a disappointment. Nonspecific reactions are frequent enough to cast doubt on the value of the tests. Rajka[18] observed a sharp local reaction by the injection of a preparation made from trichophytin in a case of "Sommerschuppung," or superficial scaling of the palms described by Wende[19] as keratosis exfoliativa, and more recently by Porosz[20] as dishidrosis sicca lamellosa. A local reaction to a preparation made from trichophytin satisfied Leszszyosky[21] that he was dealing with a fungous conjunctivitis, notwithstanding the fact that he was unable to find any other evidence of fungi. In a case of acute conjunctivitis that I saw recently, budding organisms were plentiful in both stained and unstained preparations, and no test was needed to fix the diagnosis.

Among the diagnostic errors and consequent therapeutic failures may be mentioned the treatment as ringworm of acquired keratoses of the palms and soles. The keratolytic action of Whitfield's ointment, together with the roentgen ray, will usually cure the disorder, but the ointment alone will not. Another diagnostic error frequently encountered is the application of Whitfield's ointment to occupational and external irritant dermatoses. I have recently seen an extensive occupational dermatitis which had been aggravated for six months by applications of Whitfield's ointment, and also two cases of primrose dermatitis, one of which had been treated with tincture of iodine and the other with the ointment. In all such cases I have been told by the patient that the diagnosis had been made without the use of the microscope.

High in the list of therapeutic failure stands the conversion, by overtreatment, of a mild ringworm infection into a chronic dermatitis. In an individual who has a sensitive skin and bacteriophobia this is particularly likely to occur. The patient's desire for a cure tempts him to disobey instructions and to indulge in therapeutic excesses. The transition is difficult to detect, but even when recognized is difficult to treat. It is in this type of case that I have found soothing ointments and radiotherapy to be of the greatest value.

A search of the literature of the last three years has disclosed very few new suggestions for treatment, and most of these are for ringworm of the scalp. The use of 10 per cent antimony and potassium tartrate salve in sharply localized microsporon infection of the scalp, first suggested by Oppenheim[22] and advocated by Steiner[23] and von Berde,[24] apparently has not been used in superficial ringworm.

The method of treatment for lupus erythematodes, utilizing the well known irritant reaction between iodine and ammoniated mercury advocated by Hauck,[25] has been found by Sachs[26] to be very efficient, in ringworm both of the scalp and of the glabrous skin. C. J. White[27] says that a 2 per cent solution of mercurochrome-220 soluble is proving far more effective than any drug he has employed before. Weidman[28] has made some interesting observations on the inhibiting action of a yeast when mixed with *E. cruris* and planted on culture mediums. This offers a field of investigation well worth exploring. Even more interesting were the experiments he carried out on the common pathogens, both in culture material and in tissue, to determine the thermal death point, which was found to lie between 48 and 51 C., a temperature well within the limit of human tolerance. In an extensive report of the mycoses of Madagascar, Fontoynont and Boucher[29] observed a severe *Cryptococcus mena* (pink) infection which resisted potassium iodide internally, but which yielded to 0.10 Gm. daily of methylene blue internally and the daily external application of a 1 per cent solution of the same drug. An interesting feature of this treatment was the fact that until after the administration of methylene blue the blood serum of patients infected by the cryptococcus did not agglutinate the organism. For *Sporothrix beurmanni* infection they found the Ravaut[30] method of intravenous injection of diluted compound solution of iodine to be superior to any other. The alcoholic solution of cinnamon oil and thymol elaborated by Myers and Thienes[2] is a most effective preparation. It is penetrating, cleanly and easily applied, and does not produce unsightly stains. In my private practice I have found it more satisfactory than Whitfield's ointment. The trichophytin preparations appear to be of no greater value therapeutically than they are for diagnostic purposes. Autogenous vaccines, likewise, have failed to come up to our expectations.

A more extensive and intensive search of the recent literature would probably make substantial additions to the foregoing list, but as it stands it is not very imposing. The future holds much of promise, however, and with such men as Myers, Thienes, Kingery, Highman, Sharlit and Weidman vigorously attacking the problem, inevitably there will be forthcoming the most valuable results, not only as regards their actual contributions to the treatment but also as regards the stimulation of interest in other workers.

25 East Washington Street.

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18. Rajka, E.: Dermat. Wchnschr. (supp.) **79:** 1252 (Oct. 22) 1924.
19. Wende, G. W.: J. Cutan. Dis. **37:** 174 (March) 1919.
20. Porosz. Dermat. Wchnschr. **76:** 216, 1923.
21. Leszszyosky: Ann. de dermat. et syph., 1923, p. 536.
22. Oppenheim: Dermat. Wchnschr., 1920, number 3, cited by Steiner (footnote 23).
23. Steiner, E.: Dermat. Wchnschr. **80:** 51 (Jan. 10) 1925.
24. Von Berde, K.: Dermat. Wchnschr. **81:** 1263, 1925.
25. Hauck: München. med. Wchnschr. **70:** 1482, 1923.
26. Sachs, O.: Dermat. Wchnschr. **78:** 165 (Feb. 9) 1924.
27. White, C. J.: Fungus Diseases of the Skin, Arch. Dermat. & Syph. **15:** 400 (April) 1927.
28. Weidman, F. D.: Laboratory Aspects of Epidermophytosis, Arch. Dermat. & Syph. **15:** 448 (April) 1927.
29. Fontoynont and Boucher: Ann. de dermat. et syph. **4:** 209, 1923.
30. Ravaut: Ann de dermat. et syph., May, 1921.

Rate of Biologic Change.—The question, "What is the rate of biological change?" is so simplified that it may never be possible to answer in as simple a manner. The rate of biological change may be very rapid at one time and very slow at another. Or it may be rapid in one species and slow in another. Or, again, only one part of the bodily mechanism may be undergoing change and the other parts remain stable, except so far as internal readjustments may be occasioned. And then of course it will be difficult to express rates of biological change in measurable and comparable units. All these difficulties, particularly in the light of the present data, mean that the most that can be expected from an inquiry into the rate of biological change will necessarily be quite general. But it should be remembered that the purpose for which this knowledge is wanted in the present discussion is to make comparisons of the rapidity of change in man with the rapidity of cultural changes. Biological changes are slow as seen against the span of human life.—Ogburn: Social Change, pp. 123-124.

BISMUTH IN THE TREATMENT OF CONGENITAL SYPHILIS *

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Since its introduction in the treatment of syphilis in 1921 by Sazerac and Leviditi, bismuth has been generally accepted as an antisyphilitic remedy of unquestionable merit. Laboratory experimentation and clinical trial have proved that bismuth is superior to mercury both therapeutically and from the standpoint of toxicity. It is only natural that a drug which has proved to be of such distinct value in acquired syphilis should be employed in congenital syphilis, that refractory offspring of the parent disease. It is strange, however, that the literature contains only scant reference to the value of bismuth in congenital syphilis.

Among the first to report his experience with the use of bismuth in congenital syphilis was Müller,[1] who treated six cases in 1922 and found a good symptomatic response without toxic symptoms. In the following year Cajal and Spierer [2] reported the treatment of eight cases with a bismuth tartrate preparation, and stated that it had a therapeutic action on active manifestations more rapid than that of mercury and as rapid as that of the arsphenamines. Splenic enlargement was observed to disappear more quickly after bismuth than when mercury or arsphenamine were used. Untoward effects were never observed. Genoese and Mazzacuva [3] studied the effects of bismuth in congenital syphilis, using a water soluble preparation (potassium sodium bismuthotartrate), and later a colloidal bismuth. Moderately large doses were employed and the authors found that bismuth, while slightly less active than the arsphenamines, never failed to give good results, while in their experience the arsphenamines and mercury occasionally failed entirely.

A suspension of bismuth salts in an oil was employed by Török.[4] In his experience bismuth proved to be a more satisfactory drug than either mercury or the arsphenamines from the standpoint of ease of administration and its lowered toxicity in therapeutic doses. Stoye [5] reported a distinct superiority for bismuth over mercury, as did Seltzer and Levy,[6] who found that its action on cutaneous manifestations was more rapid than that of mercury. Dissenting opinions as to the value of bismuth in congenital syphilis are offered by Pinard [7] and Frank,[8] Pinard asserting that bismuth is not well borne by children and that it often causes anemia, emaciation and lassitude, and Frank, though reporting a favorable therapeutic value for bismuth, believing that the drug too often produces toxic symptoms in children. In his own series of twelve cases, Frank had one death following treatment with bismuth.

The majority of these reports are based on a small number of cases. I have undertaken the present study because of the opportunity to observe the effects of the drug in a comparatively large number of cases of congenital syphilis. In a previous study [9] of 160 cases of syphilis comprising all stages of the disease, which were treated with one or several courses of bismuth, I was struck with the remarkable influence of the drug in sixteen cases of congenital syphilis.

Table 1, which was first published in my previous study, is reproduced here in full for the purpose of later comparisons and as a matter of interest in showing the effect of bismuth in other types of syphilis. It will be observed that nine out of sixteen patients with congenital syphilis, all with strongly positive Wassermann reactions at the beginning of bismuth therapy, gave negative Wassermann reactions after having failed entirely to respond to an average of eighteen doses of neoarsphenamine and eight injections of mercury. A hope of finding in bismuth the utopian remedy for the treatment of this refractory type of syphilis has not been entirely fulfilled by the study of a larger series of cases, although the advantages of the drug are many and its position as an adjunctive remedy seems definitely established. Certainly, in its effect on the serologic reaction, neoarsphenamine appears to be less valuable than bismuth in congenital syphilis.

TABLE 1.—*Effect of Bismuth on Various Types of Syphilis*

	Diagnosis					
	Secondary Syphilis	Latent Syphilis	Tertiary Syphilis, Cutaneous	Tertiary Cerebrospinal Syphilis	Secondary Visceral Syphilis	Congenital Syphilis
Number of cases	9	75	11	14	3	16
Neoarsphenamine doses, average	19	17	19	29	12	18
Mercury doses, average	..	7	5	9	6	8
Wassermann negative after foregoing	6	18	1	..	1	..
After foregoing, per cent negative	60	22.5	9	..	33	..
Remaining negative under bismuth, per cent	100	100	100	..	100	..
Cases positive at start of bismuth	4	57	10	14	2	16
Negative after bismuth	4	32	4	3	..	9
Made negative by bismuth, per cent	100	51	40	20	..	56
Injections of bismuth to obtain negative Wassermann, average	10	13	16	17	..	17
Cases reverting to positive	..	5	2	2	..	1
Cases unaffected by all treatment	..	23	6	11	2	7

As in the previous study, potassium bismuth tartrate [10] was used, the dose being regulated according to body weight, since bismuth, like other antisyphilitic remedies, is tolerated in a larger dose per kilogram of body weight by infants than it is by adults. It was ascertained that a dose of 5 mg. per kilogram was well tolerated, although in older children the dose never exceeded a total of 100 mg., which was found to keep the body at the point of saturation as evidenced by a blue line along the gum margin. The drug was administered only by intramuscular injection, a needle an inch and a half long and 22 gage being used and inserted to a depth just sufficient to reach the deep muscles of the buttock. Injections were given in courses of sixteen, with a month's rest between, the interval between injections being one week. Including the cases reported in the previous paper, a total of fifty-four cases has been studied.

EFFECT ON CUTANEOUS MANIFESTATIONS

Since first undertaking this study, I have had the opportunity of treating only three cases of congenital syphilis presenting active cutaneous lesions. Two of these were in twins, aged 6 months, presenting bullous lesions on the palms and soles, rhagades at the angles of the mouth, and condylomas around the anus. The latter lesions, under the dark-field microscope, were found to be teeming with spirochetes. In spite of the fact that the infants weighed only about 10 pounds (4.5 Kg.) each, a 50 mg. dose of potassium bismuth tartrate was administered intramuscularly. This dose was very well tolerated, and that it was therapeutically effective was evidenced by the disappearance of spirochetes from the condylomas within forty-eight hours and the healing of the cutaneous manifestations within ten days, or five days after the injection of the second dose of 50 mg. of the drug. A third infant, aged 9 months, with papular and pustular lesions over the trunk, responded promptly to a dose of 50 mg. at intervals of one week. A Herxheimer reaction was not observed in any of these three cases. It is not, however, for its effect on cutaneous manifestations that one would seek for a new remedy in congenital syphilis, for either mercury or the arsphenamines will result in prompt healing of the cutaneous manifestations in the majority of cases. It has been the experience of others that bismuth is a more active spirocheticide than mercury, Cardosa[11] and Nathan[12] having found more rapid disappearance of spirochetes from skin lesions than after mercury.

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* From the clinic of Dr. Jay F. Schamberg, Polyclinic Hospital, University of Pennsylvania Graduate School of Medicine.

* Read before the Section on Dermatology and Syphilology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

[1] Müller, Fritz: München. med. Wchnschr. **69:** 1659 (Dec. 1) 1922.

[2] Cajal, M., and Spierer, H.: Presse méd. **31:** 354 (April 18) 1923.

[3] Genoese, G., and Mazzacuva, G.: Pediatria **31:**1081 (Oct. 15) 1923.

[4] Török: Med. Klin., 1923, quoted by Frank.

[5] Stoye, W.: München. med. Wchnschr. **71:** 1431 (Oct. 10) 1924.

[6] Seltzer, E., and Levy, S.: Arch. f. Kinderh. **75:** 241 (March) 1925.

[7] Pinard: Bull. méd. **37:** 894, 1923.

[8] Frank, M.: Arch. f. Kinderh. **74:** 106 (April) 1924.

[9] Wright, C. S.: Am. J. M. Sc. **173:** 232 (Feb.) 1927.

[10] Drug furnished by the Dermatological Research Laboratories, Philadelphia.

LATE CONGENITAL SYPHILIS

The majority of the cases included in this study were cases of late congenital syphilis in age periods from 2 to 16, and averaging about ten years. All these children entered the clinic with strongly positive Wassermann reactions, as will be seen in table 2; many of them had had previous treatment with some arsenical and some of them had had mercurial injections or rubs. In all these cases it was possible to check the previous treatment fairly accurately, for these were patients who had been under treatment in the past, had lapsed and had to be brought back, or they had been referred by outside clinics with an accurate history of their previous treatment accompanying them. Only four of these forty-seven patients gave negative reactions after receiving a considerable amount of neoarsphenamine, averaging twenty doses to each of the forty-seven children, the usual dose being 0.3 Gm. These four received, respectively, twelve, sixteen, forty and fifty injections of neoarsphenamine before a reversal of the Wassermann reaction took place. Following the institution of treatment with bismuth, negative Wassermann reactions were obtained in twenty of the remaining forty-three cases showing positive serologic reactions after the treatment with neoarsphenamine. Although four of these cases have since shown a positive Wassermann reaction on at least one occasion, the remaining cases have remained Wassermann negative.

In the series of sixteen cases previously reported, Wassermann tests were made on each child weekly, and it was determined that in the nine cases in which the Wassermann reaction was reversed an average of sixteen injections of the drug was required to obtain the negative reaction. In the larger series of cases it was found impracticable to subject the children to weekly Wassermann tests and intramuscular injections

Table 2.—*Cases of Late Congenital Syphilis Treated with Bismuth*

Case	Age	First Wassermann Reaction	Number of Neoarsphenamine Injections	Wassermann Reaction after Neoarsphenamine	Total Number of Bismuth Injections to Date	Effect of Bismuth on Wassermann Reaction	Comment
1. M. Ba.	5	4+	40	Strongly positive	60	Negative	
2. M. G.	16	4+	36	Strongly positive	75	Negative	Reverted to positive later
3. C. C.	9	4+	7	Moderately positive	50	1+	Kahn became negative
4. E. K.	11	4+	50	4+ positive	56	Negative	Persistently negative for past year
5. J. F.	6	4+	19	4+ positive	27	Weakly positive	Irregular visits to hospital
6 D. L.	16	4+	12	4+ positive	35	4+	Positive spinal fluid
7. J. R.	6	4+	16	4+ positive	20	4+ positive	
8. M. By.	5	4+	8	4+ positive	27	4+ positive	Kahn reduced to negative
9. D. H.	8	4+	45	4+ positive	75	Weakly positive	Kahn reduced to negative
10. J. D. G. ...	11	4+	19	4+ positive	48	Moderately positive	Kahn reduced to negative
11. R. W.	9	4+	40	4+ positive	67	Negative	Negative for 18 months
12. R. L.	9	4+	23	4+ positive	45	Negative	Negative for past year
13. J. H.	12	4+	12	4+ positive	37	4+	Tertiary lesions of the arm
14. E. V. A. ...	8	4+	16	4+ positive	32	4+	Intermittent treatment
15. S. P.	11	4+	21				
16. Z. N.	7	4+	8	4+ positive	60	4+	
17. R. M.	2	4+	0	4+ positive	32	4+	*Interstitial keratitis*
18. H. D. C. ..	8	4+	30	4+ positive	30	4+	Treatment irregular
19. D. F.	15	4+	7	4+ positive	32	4+	
20. E. D.	9	4+	0	4+ positive	11	Negative	
21. T. B.	8	4+	16	4+ positive	37	4+	
22. C. C.	10	4+	40	4+ positive	27	Weakly positive	Interstitial keratitis
23. B. B.	10	4+	40	Negative	60	Negative	
24. Z. B.	11	4+	8	4+	14	Negative	
25. M. B.	12	4+	50	Negative	45	Negative	
26. C. B.	12	4+	17	4+	18	Negative	
27. C. B. B. ...	10	4+	12	4+	8	Negative	Became positive after long rest
28. D. M.	14	4+	24	4+	32	4+	Given malaria inoculation
29. C. W.	12	4+	12	Moderately positive	16	Negative	Spinal fluid positive
30. F. M.	14	4+	16	Weakly positive	12	Negative	Persistently negative for more than a year
31. G. S.	14	4+	12	4+	20	Negative	Persistently negative for more than a year
32. H. G.	13	4+	16	4+	7	Negative	
33. A. T.	12	4+	12	Negative	18	Negative	
34. W. H.	12	4+	12	4+	16	4+	Transferred for malaria inoculation
35. N. F.	9	4+	16	Negative	26	Negative	
36. F. M.	10	4+	80	4+	18	Negative	
37. H. Z.	14	4+	8	4+	32	4+	
38. A. B.	8	4+	0	4+	25	Moderately positive	
39. B. Ba.	12	4+	12	4+	20	Negative	
40. V. C.	12	4+	0	4+	45	4+	
41. R. D.	7	4+	38	4+	60	Negative	
42. H. D.	11	4+	15	4+	40	Negative	
43. M. G.	13	4+	16	4+	44	Negative	
44. A. H.	8	4+	17	4+	12	Negative	
45. E. M.	14	4+	38	4+	14	4+	
46. S. P.	15	4+	21	4+	28	4+	
47. Z. V.	4	4+	0	4+	28	Negative	

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11. Cardosa: Klin. Wchnschr. **4:** 31, 1922.
12. Nathan, E.: München. med. Wchnschr. **71:** 647 (May 16) 1924.

each week, so tests of the blood were made monthly. Consequently, it is impossible to estimate the average amount of bismuth required to obtain the negative Wassermann reactions in the twenty cases in which the reactions were reversed.

It is of further interest that, in five cases in which the Wassermann reaction was uninfluenced by bismuth, the Kahn reaction was reversed from a positive to a negative. Stokes,[13] using arsphenamine and mercurial rubs, was able to obtain a reversal of the Wassermann reaction in 62 per cent of cases of congenital syphilis, but the treatment which induced this result was carried out over a period of three or four years. Dennie and Dwyer [14] were able to reverse the Wassermann reaction in only 40 per cent of their cases treated with intravenous arsphenamine and intramuscular mercuric chloride injections in three years. Admittedly the majority of these children had had considerable treatment before receiving any bismuth, but neoarsphenamine and mercury had had surprisingly little effect on the serologic reaction. In this series of cases, the Wassermann reaction was reversed from strongly positive to negative in 47 per cent of the cases. In view of the fact that the positive Wassermann reaction in late congenital syphilis is peculiarly resistant to treatment, this result seems favorable.

INTERSTITIAL KERATITIS

Bismuth has proved to have a particularly favorable action in the treatment of interstitial keratitis, its therapeutic effects rivaling if not surpassing those of the arsphenamines. Photophobia is relieved within a period of from two to four weeks. The end-result following treatment with bismuth is astonishingly good. Four cases of acute interstitial keratitis treated with bismuth, without any other antisyphilitic remedy, are included in this study. All these cases responded with remarkable rapidity, and by the end of the third month of treatment the process was inactive in every case. The degree of corneal clouding remaining was extremely slight and vision was good in every case. The response to bismuth appears to be as prompt as, and the end-result equal in every way to, that obtained with the arsphenamines.

UNTOWARD EFFECTS FROM BISMUTH

In the doses in which I employ it, potassium bismuth tartrate has proved to be remarkably nontoxic, which is of great value in treating children. There is very little pain connected with the injections, provided a proper technic is employed in the injections. The majority of the children enter the treatment room with a smile on their faces, and rarely do they complain the following week of any unpleasant symptoms in the interim. Immediately after the injection of the drug, the area of injection is massaged, which tends to aid in diffusion in the muscle, and as a consequence it is almost unknown for a node to develop subsequently.

Stomatitis to any degree of severity is also practically never seen. A blue line will form along the gums, but this is to be expected.

A number of the children have at times developed slight eczematoid eruptions which in all probability are due to the drug, for the eruption would disappear on cessation of the bismuth for a week or two, and reappear on reinstitution of treatment.

Anemia occurring as a result of bismuth as described by Pinard has not resulted so far as I have been able to determine from blood examinations on a number of these children. Their general health seems to improve following the repeated administration of the drug.

In only three cases has an albuminuria developed during the administration, and in these three cases there was at no time more than a trace of albumin. Two children who had developed an albuminuria following the administration of neoarsphenamine did not show any increase in the degree of albuminuria by the later administration of bismuth. It was because of the untoward effect of bismuth on the kidneys that Frank counseled against its use in congenital syphilis. The unfortunate results in his cases may have been due to the use of a more toxic preparation, or of a larger dosage.

COMMENT

The value of bismuth as an effective remedy in acquired syphilis is widely recognized at the present date. From this study, bismuth appears to be a remedy which may also be employed with great benefit in congenital syphilis. Cutaneous manifestations disappear and spirochetes are destroyed with a rapidity rivaling that of the arsphenamines, although it is known from experimental evidence and from observation of its effects that bismuth is actually inferior as a spirocheticide to the arsphenamines. In interstitial keratitis it has been my experience at the Polyclinic Hospital that bismuth appears to be a remedy equal in value to the arsphenamines. Kleefeld in France believes that bismuth is even superior to the arsphenamines in interstitial keratitis. Others have reported that bismuth acts more rapidly in reducing splenic enlargement than do the arsphenamines. From this study it would appear that bismuth exerts a more powerful action in reducing positive Wassermann reactions to negative than neoarsphenamine. However, in all fairness it must be remembered that a Wassermann reaction will often become spontaneously negative a long period after all active treatment is stopped. Also the previous neoarsphenaminizing of the children may have prepared the way for a more rapid action from the bismuth by destroying the majority of the spirochetes and leaving only a weak barrier of organisms for the bismuth to down. From the standpoint of toxicity, as determined by subjective evidence on the part of the children, bismuth is decidedly superior to mercury, being considerably less painful and rarely ever causing even the mildest toxic symptoms.

TABLE 3.—*Comparison of Therapeutic Indexes of Bismuth and Other Antisyphilitic Remedies (Hopkins)* [15]

Preparation	Curative Dose, Mg. per Kg.	Approximate Tolerated Dose, Mg. per Kg.	Approximate Therapeutic Dose
Potassium and sodium bismuth tartrate	2	75	1:37
Precipitated bismuth	4	400	1:100
Arsphenamine (intravenously)	15	100	1:7
Neoarsphenamine (intravenously)	11	300	1:30
Mercuric salicylate (intramuscularly)	15	6	2½:1

Laboratory experimentation tends to show that bismuth is a superior spirocheticide and at the same time has a lower toxicity in therapeutic doses than mercury. Hopkins [15] demonstrated that potassium and sodium bismuth tartrate was tolerated intramuscularly in doses of 75 mg. per kilogram; the therapeutically active dose (the dose capable of healing lesions and effecting a disappearance of spirochetes) in rabbit syphilis was 2 mg. per kilogram. His comparison of the therapeutic index of the chief antisyphilitic remedies is given in condensed form in table 3.

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[13] Stokes, J. H.: Modern Clinical Syphilology, Philadelphia, W. B. Saunders Company, 1926.

[14] Dennie, C. C., and Dwyer, H. L.: The Results of Treatment of Four Hundred Cases of Congenital Syphilis, Tr. Sect. Dis. Child., A. M. A., 1924, p. 243.

[15] Hopkins, J. G.: Antisyphilitic Action of Bismuth, J. A. M. A. 83:2087 (Dec. 27) 1924.

Gruhzit [16] also found that a dose of 2 mg. per kilogram would kill the spirochetes in rabbit syphilis. Petkovitch-Halyetska [17] gives a table (reproduced in table 4) indicating the comparative dosage per kilogram of the main antisyphilitic remedies required to sterilize a syphilized rabbit. This table is interesting as it indicates that calomel is superior to insoluble bismuth preparations: but it must be remembered that calomel is so much more toxic as to make its use impracticable.

Table 4.—*Dosages Required to Sterilize Syphilized Rabbit*

Neoarsphenamine	0.015	per kilogram of body weight
Soluble bismuth	0.02	per kilogram of body weight
Calomel	0.06	per kilogram of body weight
Insoluble bismuth	0.08	per kilogram of body weight

Milian [18] of Paris represents the spirocheticidal power of arsphenamine, bismuth and mercury as 10, 7 and 4, respectively.

Bismuth is not suggested in this presentation as the sole remedy for the treatment of congenital syphilis but as a remedy which may be used as the chief ammunition in arresting the progress of the disease in a child and bringing about clinical and serologic cure. Certainly, the arsphenamines are to be regarded as our most valuable remedy, although if only one drug was available for the treatment of congenital syphilis, I believe that bismuth would be my choice, because it can be used more constantly and indefinitely. The arsphenamines act rapidly but are excreted rapidly, and so act for only a brief period of time following each injection. They are apt to prove more toxic and, used alone, neoarsphenamine at least exerts a feebler action on the positive Wassermann reaction. Syphilologists are accepting the view that the best treatment for congenital syphilis is slow but sure treatment. It is for this type of treatment that bismuth is best adapted. It also has the advantage of building up the patient, and thus increasing the resisting power of the individual against the disease. Bismuth is a drug which, placed in the muscles of a syphilized patient, exerts a continuous action, a beneficial action, without causing any unfavorable action on the body tissues. In the congenital syphilis department of Dr. Schamberg's clinic, I am now using bismuth as the main adjunct to the arsphenamines, confining the use of the latter to one or two courses of eight injections, and then depending on the bismuth to complete the arrest of the disease.

SUMMARY

The action of bismuth in congenital syphilis was studied in fifty-four cases. The majority of these patients had had previous treatment with neoarsphenamine, and some of them had received mercurial injections. Forty-seven had late congenital syphilis, and only four of these forty-seven gave negative Wassermann reactions after an average of nearly thirty injections of neoarsphenamine. Twenty of the remaining forty-three patients with positive Wassermann reactions became Wassermann negative after a variable amount of bismuth, all but four of these being still negative at the time of the writing of this paper, and these four showing usually a single serologic relapse.

In three cases presenting cutaneous manifestations, the cutaneous lesions disappeared with rapidity and spirochetes disappeared within forty-eight hours after the administration of potassium bismuth tartrate intramuscularly in a dosage of 5 mg. per kilogram of body weight.

Four patients with an active interstitial keratitis untreated with any other antisyphilitic remedies were treated with weekly injections of bismuth and atropine locally. The results equaled those obtained with the combined arsphenamine-mercurial treatment.

Bismuth proved to be remarkably benign, being well tolerated by children of all ages and causing a surprisingly little degree of pain. Bismuth is recommended as the chief adjunct to the arsphenamines in the treatment of congenital syphilis.

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ABSTRACT OF DISCUSSION

Dr. J. Gardner Hopkins, New York: Bismuth was introduced about four years ago, and is now recognized as an antisyphilitic drug of real value. A questionnaire was sent out by the *Medizinische Klinik* to various German clinics. Nine responded. Of these, all used arsenic in routine treatment. Five used bismuth but not mercury. Three used both bismuth and mercury. In my experiments, an insoluble preparation of bismuth, given intramuscularly, was compared with a soluble preparation of arsenic, given intravenously in a single injection. The procedure favors the insoluble drug, which may act over a long period. There have been wide differences in reported observations as to what is the spirocheticidal dose of bismuth. If 4 mg. is considered curative, one such dose can be given therapeutically at a single injection; that is, 0.25 Gm. for a man weighing 60 Kg. With neoarsphenamine, we can give about one and one-third curative doses. With mercury, we can give only one seventh of the dose which will cause spirochetes to disappear in rabbits. This indicates somewhat the spirocheticidal value of the three drugs. While their therapeutic effect may not be due to spirocheticidal action alone, the only thing we really know about bismuth, arsphenamine and mercury is that they are spirocheticidal. From what is known of their spirocheticidal action, bismuth should not replace arsphenamine, and I am glad that Dr. Wright brought this out. However, the only way we can estimate the value of any treatment is to use it alone in a series of cases, as Dr. Wright has done. We are coming to a fairly general acceptance of the fact that the syphilitic patients whom we expect to cure must be treated continuously for a long period, and in such a program we surely have room for more than one drug. In fact, it makes therapy easier if we have three drugs with which to vary treatment, rather than two. It seems to me that at present one is not doing everything possible for his patient unless he gives arsphenamine, mercury and bismuth.

Dr. Joseph J. Eller, New York: I should like to recall to your minds the work of the late Dr. Fordyce and Dr. Rosen on the injection of arsphenamine and soluble mercury into the buttocks. Their results were very good in congenital syphilis. It would be a good idea to treat, say, 100 cases with bismuth according to Dr. Wright's method, and a control series with arsphenamine and mercury according to Fordyce and Rosen's method; also a third series of cases with all three drugs combined, with the proper alternations. We might give bismuth and arsphenamine, and mercury and arsphenamine in another. I believe that the latter method would give better results and less Wassermann-fast cases.

Dr. John H. Stokes, Philadelphia: I agree, in the main, with Dr. Wright's statement that prenatal syphilis should have prolonged treatment. But I should like to modify it to the extent of saying that the treatment should also be individualized. To consider prenatal syphilis cases as all being of the same stripe, and requiring uniform treatment with any one drug or method, may be as serious a mistake as the same point of view with reference to the disease as a whole. The onset of acute complications, such as interstitial keratitis, must be met by specially intensive and rapid-fire methods, of which I know none better than the combined use of a soluble mercurial salt, arsphenamine (not neoarsphenamine) and large doses of iodide. Because of the rapidity of its action, I feel that this combined treatment is superior, in this particular situation, to the use of insoluble bismuth. I have seen infiltrates that were reappearing in the cornea under bismuth begin to clear again when mercuric succinimide replaced potassium bismuth tartrate. Only by a selection of therapeutic method to meet the actual situation can we overcome the feeling of hopelessness in this as in other aspects of syphilis.

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[16] Gruhzit, O. M.: Bismuth Salicylate in Experimental Rabbit Syphilis, Arch. Dermat. & Syph. **13**: 195 (Feb.) 1926.

[17] Petkovitch-Halyetska: Thesis, Paris, 1923.

[18] Milian, quoted by Schamberg: Therap. Gaz., Jan. 15, 1927.

Dr. Carroll S. Wright, Philadelphia: I believe that I was not fair to neoarsphenamine and mercury in that, in getting a series of cases to treat with bismuth alone I was not able to get cases that had not been treated by arsphenamine and other means. I do believe that if these patients had not had the previous treatment with mercury and neoarsphenamine my results would not have been so good. However, I think that this does not detract in any way from the value of bismuth. If bismuth is able to swing cases which have resisted neoarsphenamine and mercury from serologic positive to serologic negative reactions, it must be regarded as a valuable drug. We tried the Fordyce and Rosen method for a time, but the children would not tolerate the intramuscular injections of mercury into the buttocks, and when we tried the neoarsphenamine intramuscularly, the pain was considerably worse than it has been since we have been using the bismuth.

VENOUS PRESSURE IN CARDIAC DECOMPENSATION [*]

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The most important development in recent years in cardiodynamics is the discovery of the relationship between venous pressure and heart activity. The older conception, based largely on theoretical deductions from the physical conditions of the circulation and on data derived from studies of mechanical circulation schemata, was that the heart output modified venous pressure by varying the rapidity with which blood was taken from the veins and pumped into the arteries. In this conception it is clear that cardiac activity is the primary factor, and changes in venous pressure are the result. In the modern conception the order of these is reversed, and it is now recognized that the venous pressure is the main factor in regulating cardiac activity. An increased venous return causes increased cardiac output; a reduced return with a lower pressure tends to result in reduced cardiac activity. There is thus a self-regulating mechanism which tends to stabilize venous pressure at an approximately constant level through variation of the energy released by the cardiac muscle in its contraction. With increased venous return the ventricles fill to a greater extent, the duration of systole is longer,[1] while the residual blood at the end of systole may or may not be reduced.

The heart rate is also usually increased.[2] In the dog, variations of right auricular venous pressure between —2 and +17 cm. of water cause increases in stroke volume from 40 to 150 per cent.[3] The venous pressure represents the filling pressure of the ventricle, immediately before ventricular contraction, and is the initial load against which the ventricular muscle contracts.

It has been known for many years that the energy released by the contraction of skeletal muscle increases with increasing initial load within certain well defined limits, and modern work has simply extended this conception to cardiac muscle. Whether the increased energy output is the result of increased initial length or increased initial tension, or both, of the muscle fiber, is a controversy which still involves the explanation of the mechanism of this reaction in both the skeletal and the heart muscle, and its consideration is beyond the scope of this paper. The important conception is that within limits the heart responds to an increased load with increased work, and the upper range of response is that which has been known for years as the cardiac reserve.

This conception has also greatly extended our understanding of the behavior of the heart in cardiac disease and in heart failure. Cardiac decompensation occurs when the initial load on the ventricles, represented by the venous pressure, exceeds the physiologic limit of the muscle to respond to an increased load by increased work. It is comparable in every way to loading a skeletal muscle with a load too great to be moved effectively. The muscle stretches beyond its physiologic limits, and the contractions are weak and inefficient. An acute dilatation supervenes, as has been shown by the usual methods of physical examination and the more exact methods of roentgen-ray study.[4] This may conceivably occur as the result of a reduced range of physiologic response on the part of the muscle or an abnormally high venous pressure load, or both of these factors acting together. Probably a combination of the two is invariably present, and the primary factor is doubtless a narrowed range of response of the muscle due to disease.

Modern work points almost conclusively to the view that the normal muscle can respond effectively to any venous load resulting from the most violent form of physical activity. The resulting rise of venous pressure may be as great as or greater than that encountered in cardiac failure, but the response of the muscle is adequate, the load is effectively moved, and the high venous pressure is only temporary. Stretching of the muscle is minimal and within physiologic limits.[5] New evidence indicates that the degree of stretching that occurs in the presence of valve lesions results in injury to the muscle and that the resulting hypertrophy is a reaction to injury.[6] There results a muscle which has increased ability to do work, but in which the range of physiologic response above that required under minimal (basal) conditions is narrowed. A subsequent increase of initial load may exceed this range and acute dilatation and decompensation supervene. When this occurs, the heart fails to move the load effectively and a further increase of venous stagnation and rise of venous pressure results, which increases to a greater degree the margin between the extent of the load and the upper limit of physiologic response on the part of the muscle. The "vicious circle" of cardiac decompensation thus becomes established. Under these conditions the venous pressure, even under conditions of rest, is abnormally high and varies directly with the intensity of the failure.[7] This appears to be the only condition in which a sustained high systemic pressure occurs.[8]

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[*] Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the *American Medical Association*, Washington, D. C., May 18, 1927.

[1] Wiggers, C. J., and Katz, L. N.: Am. J. Physiol. **58:** 439 (Jan.) 1922.

[2] Bainbridge, F. A.: J. Physiol. **1:** 65, 1915 1916. De Graff, W. C., and Sands, J.: Am. J. Physiol. **74:** 415 (Oct.) 1925.

[3] Meek, W. J., and Eyster, J. A. E.: Am. J. Physiol. **61:** 186 (June) 1922.

[4] Eyster, J. A. E., and Middleton, W. S.: Clinical Studies on Venous Pressure, Arch. Int. Med. **34:** 228 (Aug.) 1924. Gordon, Burgess: Am. J. M. Sc. **170:** 671 (Nov.) 1925.

[5] Dietlen, H., and Moritz, F.: München. med. Wchnschr. **55:** 489, 1908. Nicolai, G. F., and Zuntz, N.: Berl. klin. Wchnschr. **51:** 821, 1914. McCrea, F. D.: Read before the American Physiological Society, April 15, 1927.

[6] Eyster, J. A. E.: *Read before the American Physiological Society*, April 15, 1927.

Most of the therapeutic efforts in acute failure are directed toward a reduction of the venous load in an effort to restore the normal situation in which the load is within the range of physiologic response of the heart muscle. Complete physical rest, reduction of blood volume indirectly by diuresis, purgation and restriction of fluid intake or directly by venesection are well known effective procedures with this end in view. Cardiac competence is regained when by these and other measures the normal relation between load and work response is regained.[9] The most effective guide and index in the rational therapy of cardiac decompensation is the systemic venous pressure. The most immediately effective method of lowering the venous load is the direct removal of blood from the systemic veins. The general blood volume in cardiac decompensation may not be increased,[10] but the failure of the heart to move the normal amount of blood from the veins results in venous stagnation and a marked increase in the volume of blood in this part of the circulation. The result of removal of a part of this blood reduces the venous blood volume and the pressure of the blood in the heart in diastole [11] and diminishes the degree of cardiac dilatation [12] while in normal conditions of the circulation this procedure produces none or only transitory effects on venous pressure and cardiac volume.[13]

It seems quite evident in the light of present knowledge of cardiodynamics in cardiac failure that venesection is a most important direct and rational therapeutic procedure, and has not received the attention nor utilization that its value merits. I have available at the present time data relating to venous pressure and general clinical changes following venesection in twenty-one cases of severe decompensation. These patients were in the medical wards of the Wisconsin General Hospital, in the service of Dr. W. S. Middleton. A more detailed report will be given subsequently, but I will present some of the more important features at this time.

Ten of these were instances of primary endocarditis. In sixteen, previous periods of cardiac decompensation had occurred. The lowest venous pressure before venesection was 15, the highest 36 centimeters of water. In all but one the venous pressure was 20 cm. of water or higher. The average for all cases was 23 cm. The amount of blood removed varied from 265 to 600 cc. The lowest venous pressure level obtained within forty-eight hours following venesection was 12 cm. of water. Immediate clinical improvement was noted in fifteen cases. In six of these the venous pressure remained low and compensation was restored. Of the nine patients in this group who died in the hospital the termination in four was by what may be called circulatory accidents, pulmonary infarction or cerebral hemorrhage, and in one sudden death followed straining at stool at a time when the patient was clinically improved. In the recoveries, the fall of venous pressure subsequent to the venesection was maintained. In six cases clinical improvement did not result, the fall of venous pressure was not maintained and death occurred within thirty-six hours in five, and on the twentieth day in one.

Whether or not venesection is an effective method in restoring compensation is probably dependent in the individual cases on the range of physiologic response present in the heart. If this is not too greatly narrowed as a result of disease, malnutrition and anoxemia of the muscle, it is possible by venesection to lower the venous pressure to within its range. When this point is reached the heart begins to respond to the still high venous load with increased work, and by its response moves the load effectively and tends to reduce venous pressure to normal. This is, in fact, restoration of compensation. Even a brief period in which the pressure is lowered to the point of adequate response on the part of the muscle may result in a maintained ability to keep ahead of the load and prevent recurrence of inadequate response. If, on the other hand, the physiologic limit of response is too low, venesection may not reduce the load sufficiently to come within its range. In this event, of course, the procedure is ineffective, and a favorable result cannot be expected.

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[7] Hooker, D. R., and Eyster, J. A. E.: Bull. Johns Hopkins Hosp. **29**: 274, 1908.

[8] Clark, A. H.: A Study of the Diagnostic and Prognostic Significance of Venous Pressure Observations in Cardiac Disease, Arch. Int. Med. **16**: 587 (Oct.) 1915. Eyster (footnote 4).

[9] Eyster, J. A. E.: Physiol. Rev. **6**: 281 (April) 1926.

[10] Keith, N. M.; Rowntree, L. G., and Geraghty, J. T.: A Method for the Determination of Plasma and Blood Volume, Arch. Int. Med. **16**: 547 (Oct.) 1915.

[11] Eyster (footnote 4). Hooker and Eyster (footnote 7).

[12] Gordon (footnote 4).

[13] Meek, W. J., and Eyster, J. A. E.: Am. J. Physiol. **56**: 1 (May) 1921. Eyster, J. A. E., and Middleton, W. S.: Am. J. Physiol. **68**: 581 (May) 1924.

REFLEX VOMITING FROM THE HEART

THE MECHANISM OF VOMITING INDUCED BY DIGITALIS BODIES *

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Vomiting is one of the most common symptoms observed in disease, but its significance has usually received little consideration on the part of physicians. Consequently, it is hoped that this discussion of the character of the phenomenon and the nervous mechanism involved, as illustrated by the emetic action of the digitalis bodies, will result in a wider appreciation of the meaning of vomiting in disease. Since our studies have modified our conception of the vomiting act, we shall discuss the subject briefly.

Vomiting is a convulsive seizure in the higher animals and man. It is always of reflex origin, and it has a definite motor mechanism with afferent paths for nervous impulses from all the organs and probably from all parts of the body. Since vomiting is always of reflex origin, it is a sensitive indicator of many changes in different organs. It is not correct to classify vomiting as central and reflex in type, though it does result from direct stimulation of the center in some cases, and from irritation of peripheral organs in others. Projectile vomiting is sometimes described as the central type. It may occur when the stomach is filled with liquid, and a sudden paroxysm preceded by brief nausea drives the liquid out through the mouth or nose with considerable force. Obviously, this type of vomiting cannot occur when the stomach is filled with solid or semisolid food.

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* The details of the experimental evidence on which the conclusions in this paper are based will be published elsewhere.

* Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

Vomiting is a reflex act when an agent such as apomorphine acts directly on the center in the medulla. In such cases the vomiting center becomes abnormally excitable, and impulses originating in the normal viscera and other parts of the body pass up afferent nerves to the center and induce emesis. Such normal impulses are too weak to cause vomiting when the center is normal, but abnormally strong impulses, such as those induced in the stomach by copper sulphate, are effective. When normal and abnormal impulses are prevented from reaching the center by blocking the nerve paths, the animal does not vomit, and when the center is much depressed by the direct application of morphine or otherwise, vomiting cannot be induced, as we found in some of our experiments.

The character of the vomiting act induced by centrally acting emetics is quite similar to that caused by irritation of the stomach or other organ. In the first case, normal afferent impulses act on an abnormally sensitive center; in the second, abnormally active impulses act on a normal center. The vomiting act is alike except that it varies in intensity and frequency of repetition. Strychnine does not cause vomiting after it enters the circulation, but the direct application of a minute amount of strychnine to the center increases its reflex excitability just as toxic doses do that of the cord, and the effect of strychnine applied to the center is like that of apomorphine.

There is reason to believe that the vomiting center becomes hyperexcitable in various pathologic conditions; that patients who vomit with moderately increased intracranial pressure and cease to vomit as the condition progresses do so because a slight increase above the normal intracranial pressure increases the excitability of the vomiting center, and a greatly increased pressure diminishes its excitability through injury to the cells. The frequent occurrence of nausea and vomiting (with belching) associated with coronary occlusion and angina pectoris shows that the heart is provided with the nervous mechanism necessary for the vomiting reflex.

The conception that vomiting is always a reflex act is important because the phenomenon involves widely distributed visceromotor reflex actions; it is especially suitable, therefore, for study of the afferent visceral autonomic nervous system, knowledge of which is fragmentary, and the recognition of the central or peripheral seat of action of the exciting cause of vomiting in a given case may have great clinical importance.

Langley[1] specifically defined the autonomic nervous system as consisting of efferent fibers, but our studies on vomiting[2] have led us to believe that the afferent paths may be classified as sympathetic and parasympathetic with reference to their behavior toward drugs such as atropine, physostigmine and ergotoxine, which exert selective actions on the endings[3] of the afferent fibers, as well as on those of the motor fibers of the autonomic nervous system.

The differentiation of the afferent paths is sometimes easy; for example, cutting the vagi abolishes the emetic action of antimony and potassium tartrate in the stomach, but the differentiation is difficult in those cases in which a drug irritates or excites the afferent endings of some fibers in both the vagus and the sympathetic, but not those of all fibers in either trunk. A few drugs, such as aconitine and emetine, act directly on the center and also peripherally to cause vomiting.

Since any one of the peripherally acting emetics usually stimulates the endings of some of the fibers of the sympathetic nerve, or those of the parasympathetic nerve in different parts of the body in varying degrees, one can never be certain that the action is exerted on only one organ, but in many cases the action exerted on one is so much greater than that on any other that one may be certain that the total emetic action is virtually limited to the one organ.

The vagus trunk contains afferent fibers the endings of which behave toward the drugs previously mentioned like those of some of the fibers contained in the sympathetic trunk. Certain types of fibers are more abundant in the vagus; other types are more abundant in the sympathetic. Atropine paralyzes several types of afferent endings of vagus fibers and several of those of the sympathetic, while ergotoxine paralyzes several types of afferent endings of fibers in each of the trunks—vagus and sympathetic; they do not act on the same endings of either system, and there are endings in each system on which neither acts apparently. Ergotoxine paralyzes all afferent endings that are concerned with normal emetic impulses; hence, it abolishes the emetic action of apomorphine, though it does not have a direct action on the center. It is interesting to observe that the emetic action of pilocarpine is exerted on the afferent endings of fibers that appear to be limited to the sympathetic trunk, though pilocarpine is a typical stimulant of the parasympathetic type of the efferent nerves.

We have investigated the seat of the emetic action of various drugs, and have paid especial attention to the digitalis bodies during the last few years. Emphasis is placed on the fact that all the digitalis bodies exert closely similar cardiac actions, but there are different paths for the emetic impulses induced in the heart by different members of the group. This is easy to demonstrate, though we are unable to explain why it is so. It seems probable that structures in the heart which are closely related functionally are supplied by nerve fibers, the endings of which vary in the degree to which they are stimulated by different digitalis bodies. It is well known, of course, that such variation toward normal excitation exists in the conducting system of the heart; otherwise the orderly beat could not be maintained by the present mechanism. Mueller[4] states that five types of intracardiac ganglion cells have been described. We believe that the demonstration that at least two of the digitalis bodies induce vomiting reflexly by their cardiac action leads to the conclusion that all the digitalis bodies have a similar, or closely related, cardiac emetic action, and this is supported by other evidence. We have therefore limited the present investigation mainly to the emetic actions of two pure principles—strophanthidin and ouabain—for reasons that will be apparent, but our conclusions are based in part on previous work which will be mentioned briefly.

Hatcher and Eggleston[5] showed that the emetic action of the digitalis bodies is not exerted on the gastro-intestinal tract regardless of the mode of administration, and Hatcher and Weiss[6] showed that they do not act on the vomiting center, from which it follows that the action is peripheral, though, as just stated, it is not on the gastro-intestinal tract. They found, further, that cutting the nervous connections with the heart as completely as possible prevents the emetic action of the digitalis bodies under the conditions of the experiments.

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[1] Langley, J. N.: The Autonomic Nervous System, part 1, 1921, p. 1.

[2] Hatcher, R. A., and Weiss, Soma: The Seat of the Emetic Action of the Digitalis Bodies, Arch. Int. Med. **29**: 690 (May) 1922; Studies on vomiting, J. Pharmacol. & Exper. Therap. **22**: 139 (Oct.) 1923.

[3] The terms "endings" and "vomiting center" are used here in the senses defined in our previous studies on vomiting. We do not attempt to define the exact nature of these endings except to state that they are concerned with transmitting afferent impulses, and we do not mean to imply that the cells of the vomiting center are without other function.

[4] Mueller, L. R.: Beitraege zur Anatomie, Histologie und Physiologie des Nervus vagus, zugleich ein Beitrag zur Neurologie des Herzens, der Bronchien und des Magens, Deutsches Arch. f. klin. Med. **101**: 421, 1911.

[5] Hatcher, R. A., and Eggleston, Cary: The Emetic Action of the Digitalis Bodies, J. Pharmacol. & Exper. Therap. **4**: 113 (Nov.) 1912.

No experimental evidence tending to discredit this view, except that of Dresbach and Waddell,[7] has been published. They cut all nervous connections with the heart in the cat, so far as possible, and after some months they found that the intraperitoneal injection of strophanthidin induced vomiting, but the doses then required were much larger than those that had been found effective in the same animals before operation. They considered the results as evidence that strophanthidin acts directly on the center, though they were unable to induce nausea or vomiting by its direct application to the center. This is in harmony with our observation that the direct application of various digitalis bodies directly to the center failed to cause nausea or vomiting in any case.

We have undertaken to explain the discrepancy between our previous results and those of Dresbach and Waddell, and have used nicotine alone or with atropine to block afferent emetic impulses from the heart in about 100 experiments. It may be said at once that atropine was entirely superfluous in these experiments, because it does not block any of the emetic impulses induced in the cat by ouabain, and it is not necessary when nicotine is used to block those of strophanthidin. Suitable doses of nicotine abolish the emetic action of ouabain and that of intravenous injections of strophanthidin, because nicotine paralyzes the afferent endings in the heart on which those drugs act to induce vomiting. It is possible that nicotine blocks these afferent impulses in the ganglions.

Nicotine does not depress the vomiting center when used in this way nor does it block all paths from the periphery, and it does not have a perceptible effect on the afferent endings in the peritoneum; hence it does not interfere with the emetic action of an intraperitoneal injection of strophanthidin. It is clear why larger intraperitoneal doses are required after the denervation of the heart than in intact animals. After the absorption of the smaller dose from the peritoneum, the drug acts on the heart of the normal cat to induce the vomiting reflex; after the cardiac nerves have been cut, such small amounts in the circulation act on the heart, but the impulses to the center are blocked and nausea or vomiting does not occur then; with the larger doses, however, the irritant local action on the peritoneum induces vomiting.

Other irritants also induce vomiting reflexly when they are injected intraperitoneally, and nicotine is without effect on the emetic action of mercuric chloride following its intraperitoneal injection. If nicotine depressed the center markedly, vomiting could not be induced by any means.

Professor Dresbach has furnished us with protocols of unpublished experiments in which digitoxin induced vomiting in cats in which the cardiac nerves had been cut. We found that nicotine does not abolish the emetic action of an intravenous dose of digitoxin, though it does delay the nausea and vomiting unmistakably. Some of the emetic impulses are blocked but some are not, from which we conclude that digitoxin stimulates the afferent endings of more than one path from the heart to the center, and this is true of digitalis itself.

Cutting the cardiac branches of the vagi with extirpation of the stellate ganglions abolishes the emetic action of ouabain for a time at least, and this operation blocks the greater number of paths from the heart to the center, but it is probable that new paths develop after the heart has been denervated as completely as possible, for there is a network of nervous tissue about the aorta and base of the heart. No one has induced vomiting by intravenous injection of a pure digitalis principle immediately after the denervation of the heart.

SUMMARY

The space at our disposal does not permit of a discussion of all the evidence available that the heart is the seat of the emetic action of the digitalis bodies, but the more important evidence may be summarized:

1. Experiments on intact and eviscerated animals show that the emetic action of the digitalis bodies is not exerted on the stomach or intestines.
2. Vomiting is not induced by the direct application of any digitalis body directly to the center, though we have induced it in this way with minute amounts of many drugs.
3. Vomiting is not induced by the perfusion of the brain with blood to which a digitalis body has been added, but it is induced by the intravenous injection while the brain is perfused with blood in such a way as to exclude the digitalis body from the center.
4. Cutting the cardiac fibers of the vagi and extirpation of the stellate ganglions, or cutting the cord above the level at which fibers from the heart enter, abolishes the emetic action of the digitalis bodies. The effect is not due to depression, as has been intimated, for the far more severe operation for evisceration does not interfere with the emetic action of these drugs. New paths are probably formed after the heart has been denervated so far as possible.
5. Nicotine abolishes the emetic action of ouabain and that of intravenous doses of strophanthidin by paralyzing afferent endings, or, possibly, by paralyzing the connections in the ganglions through which the afferent fibers from the heart to the vomiting center pass. Nicotine does not abolish the emetic action of irritants, including strophanthidin and mercuric chloride, when they are applied directly to the peritoneum. It does not depress the vomiting center.
6. The vomiting center is not stimulated for more than a few minutes by the direct application to it of a single dose of any emetic so far as we know. Recovery follows promptly after the application of a moderate dose, and depression follows a large dose within a short time. The cardiac actions of digitoxin and those of digitalis are persistent, and their emetic action often persists for days. The cardiac action of strophanthidin is brief, and its emetic action is correspondingly fleeting. A similar correspondence exists between the duration of the cardiac action, and that of the emetic action of other digitalis bodies.
7. Evidence that the heart is provided with the nervous mechanism for reflex vomiting is also afforded by the fact that nausea and vomiting (with belching) are common symptoms attending coronary occlusion and angina pectoris.

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[6] Hatcher, R. A., and Weiss, Soma: The Seat of the Emetic Action of the Digitalis Bodies, Arch. Int. Med. **29**: 690 (May) 1922.

[7] Dresbach, M., and Waddell, K. C.: k Strophanthidin Emesis in Cats with Denervated Hearts: The Seat of Its Action, J. Pharmacol. & Exper. Therap. **32**: 9 (Feb.) 1926.

8. The only published work that seemed to afford evidence that the digitalis bodies induce vomiting otherwise than through their action on the heart actually supports the view expressed here, because larger intraperitoneal doses of the digitalis body used were necessary to cause vomiting after the cardiac nerves had been cut than were required in the intact animal. The emetic action is then exerted locally on the peritoneum.

We are unable to devise any single type of experiment which would afford absolute proof that the digitalis bodies induce vomiting by their action on the heart, but the evidence of some 200 experiments of many kinds points to the heart as the seat of this action; this, together with the fact that evidence to the contrary has not been obtained, affords the strongest proof that the digitalis bodies induce vomiting reflexly by their direct action on the heart.

THE DRUG TREATMENT OF HEART DISEASE [*]

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"It is much easier to write upon a disease than upon a remedy. The former is in the hands of nature, and a faithful observer, with an eye of tolerable judgment, cannot fail to delineate a likeness. The latter will ever be subject to the whims, the inaccuracies and the blunders of mankind." Thus, in 1778, wrote William Withering[1] in a letter to a colleague concerning the uses of digitalis.

As in the management of any bodily disorder, so in the treatment of heart disease, the exhibition of drugs is only one aspect of therapeutic procedure. In derangements of the circulation, however, the intelligent application of medicinal measures is often an important factor in initiating improvement; frequently, their timely use is directly responsible for the saving of life.

A discussion of all the various drugs that have been employed in the treatment of circulatory disturbances is clearly beyond the scope of this paper. Accurate clinical observation and laboratory experiment have served to eliminate from common usage many inferior cardiac remedies whose alleged virtue was perpetuated by tradition. The drugs to be here considered are the more important of those which, in the light of present knowledge, are generally regarded as possessing established therapeutic value.

DIGITALIS

Digitalis is the most valuable drug in the treatment of heart disease. In recent years, much has been learned concerning its mode of action, methods for its standardization and the technic of its administration. A knowledge of certain basic facts is essential if effective therapeutic results are to be obtained.[2]

1. *Mode of Action.*—In therapeutic doses, digitalis causes an increase in the amplitude of ventricular contraction by direct action on the heart muscle. This has been demonstrated in animals and in man.[3] In normal dogs, it causes diminished cardiac output, but increases tonicity and diminishes dilatation;[4] these effects have not yet been demonstrated in the diseased human heart. In the presence of regular rhythm, it does not slow ventricular rate except in persons with edema, in those with rapidly beating, hypodynamic hearts and occasionally in children. The vagus center is stimulated, often with resultant prolongation of auriculoventricular conduction. In auricular fibrillation, ventricular slowing from digitalis is due in part to vagus stimulation and in part to its direct depressant action on the conductivity of the auriculoventricular junctional tissues. The blood pressure is inconstantly and variably affected. The diuretic effect is almost entirely due to improved renal circulation rather than to stimulation of the kidney epithelium. Nausea and vomiting resulting from digitalis intoxication are due to the direct action of the drug on the heart and not to an irritant effect on the gastric mucous membrane.[5] The afferent impulses from the poisoned heart are conveyed to the vomiting center in the medulla largely through the sympathetic nerves, in part, perhaps, by way of the vagus.

2. *Indications and Contraindications.*—The cardinal indication for the exhibition of digitalis is myocardial insufficiency. Evidence of a failing heart is afforded by characteristic symptoms and signs, such as dyspnea, orthopnea, cyanosis, heart pain on exertion, edema, congestion of the lung bases or liver, and hydrothorax. The most brilliant results are obtained when the auricles are fibrillating and the ventricular rate is rapid. A good effect may also be observed in the presence of regular (sinus) rhythm.[6] In cases of advanced cardiac failure with regular rhythm, those in the arteriosclerotic group respond better than those of rheumatic etiology.[7]

The occurrence of frequent ventricular premature beats suggests caution, for coupled rhythm is one of the toxic effects of digitalis. Premature beats are not infrequently seen, however, as one of the signs of beginning heart failure. Under these circumstances, the use of digitalis may cause their disappearance. In partial heart block the danger of further depressing auriculoventricular conduction must be considered; complete block may ensue. In complete auriculoventricular block not due to digitalis, the drug may be used freely, and in some cases may cause acceleration of the ventricular rate. The presence of hypertension likewise does not afford a contraindication; often the blood pressure will fall with the relief of the circulatory embarrassment.

In addition to its use in cardiac failure, digitalis may be employed over long periods of time in small (maintenance) doses in auricular fibrillation, when it is desired to control the ventricular rate; and in certain patients with regular rhythm in whom the myocardium is badly damaged, in order to produce a slight but continued effect on the heart muscle.

3. *Standardization.*—The chemistry of the digitalis bodies is still shrouded in obscurity. Chemical assay, therefore, is obviously not feasible. In order to make

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[*] Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

[1] Withering, William: An Account of the Foxglove and Some of Its Medical Uses: With Practical Remarks on Dropsy, and Other Diseases, Birmingham, 1785, Introduction, p. xix.

[2] Excellent recent monographs on digitalis are: Robinson, G. C.: The Therapeutic Use of Digitalis, Medicine **1**: 1 (May) 1922; Cushny, A. R.: The Action and Uses in Medicine of Digitalis and Its Allies, London, 1925.

[3] Cohn, A. E., and Stewart, H. J.: Evidence that Digitalis Influences Contraction of the Heart in Man, J. Clin. Investigation **1**: 97 (Oct.) 1924.

[4] Harrison, T. R., and Leonard, B. W.: The Effect of Digitalis on the Cardiac Output of Dogs and Its Bearing on the Action of the Drug in Heart Disease, J. Clin. Investigation **3**: 1 (Oct.) 1926.

[5] Hatcher, R. A., and Weiss, Soma: The Seat of the Emetic Action of the Digitalis Bodies, Arch. Int. Med. **29**: 690 (May) 1922.

[6] Christian, H. A.: Digitalis Therapy: Satisfactory Effects in Cardiac Cases with Regular Pulse Rate, Am. J. M. Sc. **157**: 593 (May) 1919.

[7] Marvin, H. M.: Digitalis and Diuretics in Heart Failure with Regular Rhythm, with Especial Reference to the Importance of Etiologic Classification of Heart Disease, J. Clin. Investigation **3**: 521 (Feb.) 1927.

preparations of uniform and comparable potency, it has been necessary to resort to biologic standardization. The two technics in common use are: (*a*) the frog method, which aims to determine the quantity of digitalis which will produce permanent systole of the ventricle in an hour, when injected into the ventral lymph sac, and (*b*) the cat method of Hatcher and Brody,[8] which ascertains the minimal lethal dose per kilogram of cat when injected slowly, during a period of about one hour, into the femoral vein. The relative merit of these methods is still under discussion, although the cat method, in spite of its greater expense and technical difficulty, is gaining in favor. Equivalent cat units of standard digitalis preparations are 1 cc. (15 minims) of the tincture, 0.1 Gm. (1½ grains) of the powdered leaf, and 0.1 mg. (1/60 grain) of ouabain. Fortunately, the same amounts of preparations assayed by the two methods are of approximately equivalent therapeutic potencies.

Biologic assay is far from ideal. The results are not always directly transferable to man because of variabilities in absorption and because biologic activity does not afford an assurance of therapeutic efficacy. At the present time, it is the best method of standardization available. It has served to abolish, in large measure, the gross variations in strength formerly so common and disturbing.

4. *Mode of Administration.*—When possible, it is best to give digitalis by mouth. This method is simple, safe and efficacious. If sufficiently large doses are given, a beginning effect on the heart may be obtained in from two to five hours, a maximal effect in from six to twelve hours.[9]

In the presence of nausea or vomiting, or after surgical operation, digitalis may be administered by rectum. The rate of absorption is comparable to that observed when similar doses are given by mouth.[10]

Intravenous injection of digitalis or strophanthin is always attended with some danger. The margin of safety between therapeutic and toxic dose is relatively small.[11] A digitalis preparation should be used intravenously or intramuscularly only as an emergency measure, when it is imperative that the effects shall be induced within two hours or less; or when oral or rectal administration is impossible, e. g., if the patient is in coma. Under such circumstances, careful determination of dosage is essential.

5. *Choice of a Preparation.*—In the words of Withering, "the ingenuity of man has ever been fond of exerting itself to vary the forms and combinations of medicines." Certainly is this true of digitalis preparations. The infusion, because of its instability, has fallen into disuse. For oral administration, the tincture is now a common favorite. It has rather an unpleasant taste and demands of the nurse or patient that each dose be measured. Measuring introduces the confusing distinction between drops and minims, which is responsible for so much ineffective digitalis therapy. Depending on the size of the dropper, 1 minim of tincture may be equivalent to two, three or more drops.

A standardized powdered leaf, made into pills, tablets or capsules of 0.1 Gm. (1½ grains) each, answers all the necessary requirements for oral use, and eliminates the necessity of measurement. Absorption is good and deterioration is slow. Several excellent preparations of this sort, made by reliable pharmaceutic houses, are on the market. It is well to become familiar with the clinical activity of one or two such preparations and to use them consistently. To prescribe powdered digitalis at a local pharmacy is hazardous because its potency is apt to be variable and unknown.

Squill, apocynum, convallaria, strophanthus and strophanthin are absorbed poorly and irregularly from the gastro-intestinal tract and are therefore unsuitable for oral use.

For rectal administration, the tincture may be employed, diluted with from 25 to 50 cc. of tap water. An aqueous solution in 15 cc. ampules (Digitan, Merck) has been especially put up for this purpose. It is less irritating to the rectal mucosa than the tincture.

If intravenous or intramuscular injection is necessary, ouabain may be used. This is chemically and pharmacologically identical with crystalline gratus strophanthin. Being a crystalline body, it is preferable to amorphous strophanthin, which is less readily obtained in the pure state. Ouabain should be put up in hypodermic tablets or in hard glass containers in a buffered solvent, in order to avoid deterioration caused by absorption of alkali from the glass.[12] Various aqueous preparations of digitalis, marketed in ampules, have also proved satisfactory.[13]

6. *Dosage.*—Many more patients suffer from too little digitalis than from too much. To Eggleston[14] belongs a large share of the credit for demonstrating the feasibility of giving relatively large doses. Experience with standardized digitalis has shown that the average total dose for inducing full therapeutic effects within from twenty-four to forty-eight hours, in an adult who has not received digitalis within two weeks, is 1.5 Gm. (22 grains) of the leaf, or 15 cc. (225 minims) of the tincture. The range of full therapeutic dosage is from 1 to 2 Gm. of leaf, or from 10 to 20 cc. of tincture. It is usually safe to administer 1 Gm. (10 cc.) in divided doses during the first twenty-four hours; this may conveniently be given at from four to six hour intervals. In the second twenty-four hours, 0.5 Gm. (5 cc.) may be given in three doses (0.2, 0.2 and 0.1 Gm.) at similar intervals. Treatment may then be stopped or continued according to the effects observed. By using smaller doses, over a longer period, more gradual effects may be induced. If rapid digitalization is indicated, large single doses, from 1 to 2 Gm. (10 to 20 cc.) may be administered.[15] If such heroic dosage is undertaken, one must be certain that digitalis has not previously been given within the specified two-week period. Relatively large amounts may be given to children with comparative impunity.[16]

Calculation of dose according to body weight is unnecessary. It affords a false sense of security on the basis of a formula which yields only an approximate figure. The range of variation, both above and below, may be considerable in individual patients, because of differences in absorption and susceptibility. This range is sufficiently wide to include the limits of therapeutic dosage as determined by clinical experience. Successful digitalis therapy requires careful study of idiosyncrasy and individual requirements. Standardization of the drug and the establishment of more accurate criteria for therapeutic effects have, in large measure, eliminated the necessity of inducing toxic manifestations in order to insure full digitalization.

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[16] McCulloch, Hugh, and Rupe, W. H.: Studies on Digitalis Dosage in Children, Am. J. M. Sc. **162:** 231 (Aug.) 1921.

It has been shown that digitalis disappears from the body at the rate of approximately 0.1 to 0.2 Gm. in twenty-four hours.[17] Thus, 0.15 Gm. (1.5 cc.) may be regarded as the average maintenance dose; i. e., the daily dose necessary to continue a digitalis effect at a desired level. Likewise, if the drug has been previously given, the effective amount remaining in the body may be calculated by subtracting, from the total given, 0.15 Gm. for each day elapsing since the beginning of administration. Thus, if a total of 1.5 Gm. was given on one day, it would take about ten days for the drug to be completely eliminated. Digitalis effects may, on occasion, persist for as long as three weeks after administration has been discontinued.

If introduced by rectum, the dose is the same as when given by mouth.

For intravenous (or intramuscular) injection of strophanthin, 0.5 mg. as a maximum may be given to an adult in one dose; if necessary, this may be followed by smaller amounts, given at intervals of one hour, up to a total of 1 mg. Oral or rectal administration should be instituted as soon as possible if further therapy is indicated. The therapeutic dose of aqueous solutions of digitalis for intravenous use has been found to be from 0.6 to 1.1 Gm. (6 to 11 cc.).[13] Before undertaking intravenous therapy, it is essential to be certain that the patient has not been taking digitalis in any form during the preceding two weeks.

7. *Toxic Effects.*—These are so well known as to require but little comment. Nausea, vomiting, headache, drowsiness, diarrhea and coupled rhythm due to ventricular premature beats are among the earlier evidences of poisoning. Mental confusion and visual disturbances[18] are less commonly observed. In more severe intoxication, heart block (partial or complete) and ventricular tachycardia may occur. On the appearance of any of these effects, the drug should be discontinued.

QUINIDINE

Introduced into clinical cardiology by Frey[19] in 1918, quinidine has proved useful in modifying certain disorders of the heart beat. It has been used chiefly in auricular fibrillation for the restoration of normal rhythm.

1. *Mode of Action.*—A circus movement, having its path about the mouths of the great veins, has been shown to be the disordered mechanism at the basis of fibrillation and flutter of the auricles. Quinidine prolongs the refractory period of the auricular muscle and so tends to terminate the circus contraction. On the other hand, the drug retards fiber conduction in the auricle, an effect favoring continuation of the circus.[20] Normal rhythm probably ensues when the first effect predominates over the second. Quinidine also depresses cardiac irritability but increases the amplitude of ventricular contraction.[21]

2. *Choice of Cases.*—Not every patient with persistent auricular fibrillation should receive quinidine, for two reasons. First, in not every case will there be a reversion to normal rhythm, nor, if restoration is made, will this mechanism necessarily be maintained; second, by selection of cases, the danger of accident, such as embolism, sudden collapse or the appearance of undesirable disturbances in rhythm, may be minimized.

The chief criterion of the likelihood of a successful issue is a competent myocardium. Guides in the selection of suitable cases are: (*a*) fibrillation of recent onset; (*b*) little cardiac enlargement; (*c*) absence of valvular disease; (*d*) fibrillation associated with an acute infection, such as influenza or pyelitis, and (*e*) hyperthyroidism, provided there is only moderate myocardial injury and preferably after operation. In my experience, which coincides with that of the members of the Cardiac Club of London,[22] cases fulfilling the first three specifications have fared best. Criteria for eliminating unsuitable cases are: (*a*) badly injured hearts, especially with marked enlargement and longstanding valvular disease; (*b*) hearts which, after rest and digitalis, evince but little evidence of reserve strength; (*c*) a history of embolism; (*d*) patients with an idiosyncrasy for cinchona derivatives, and (*e*) occasionally, patients giving a history of cardiac pain which ceased after the onset of fibrillation.

If these criteria are followed, it becomes clear that the number of patients eligible for quinidine therapy is limited. That is precisely the point to be stressed. When in doubt, it is wiser to decide against the use of quinidine and to employ the more conservative method of digitalis medication. By observing this precept, the disappointment of failure is obviated and the hazards are avoided.

3. *Technic of Administration.*[23]—It is advisable to carry on the treatment with the patient in bed, under the supervision of a nurse and preferably under electrocardiographic control. Administration of a course of therapy to ambulatory patients is to be deprecated. Heart failure, if present, should first be managed by the use of suitable measures, including digitalis. The ventricular rate is best maintained between 60 and 70 per minute. It is desirable to attain a maximal degree of circulatory efficiency before beginning the use of quinidine.

The individual doses of quinidine sulphate, in tablet or capsule, may be given at intervals of two hours as follows: first day, two doses of 0.2 Gm. (3 grains). These dosages are to test for the presence of idiosyncrasy to cinchona. If this is found to exist, treatment should at once be abandoned. Normal rhythm may occasionally ensue from this small, preliminary dosage. Second day, three doses of 0.4 Gm. Third day, four doses of 0.4 Gm. Fourth and succeeding days, five doses of 0.4 Gm. Larger dosage has been used[24] but is not without added risk. The treatment may be continued for a week, though usually a successful result, if obtainable, is accomplished in from four to six days. If it is necessary to prolong treatment beyond this period, normal rhythm, even though restored, is often not maintained.

After restoration of normal rhythm, it is desirable to continue with small doses (0.2 Gm. two or three times a day) for several weeks or months. This amount may be taken over long periods of time without danger or discomfort.

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In paroxysmal auricular fibrillation such long-continued, small dosage has been conspicuously successful in preventing the onset of attacks. In certain cases of paroxysmal tachycardia, both auricular and ventricular, a less constant but occasionally brilliant prophylactic effect has been observed.

In auricular flutter, the results with quinidine have not been as satisfactory as in fibrillation; digitalis is the drug of choice.

Intravenous injection of quinidine is dangerous; for, as in the case of digitalis and strophanthin, the margin of safety between therapeutic and toxic doses is small.

4. *Toxic Effects.*[25]—The onset of frequent premature beats or of a persistently high ventricular rate are indications for the cessation of treatment; ventricular tachycardia and ventricular fibrillation may result, if the drug is continued. The possibility of embolism due to the breaking off of an auricular thrombus has been overemphasized. A few instances of collapse and sudden death have been reported. Although selection of cases does not always assure a successful outcome, it reduces to a minimum the danger of accident.

DIURETICS

In the majority of cases of congestive heart failure, improvement in the circulation following digitalis therapy serves to initiate diuresis. In some cardiac patients, elimination of retained fluid is facilitated by the additional use of diuretic drugs.

1. *The Xanthine Group.*—The members of this group, theophylline (theocin), theobromine and theobromine sodiosalicylate, have recently been made the subject of comparative study by Marvin.[26] His conclusions aptly summarize the situation. Theophylline was found to be by far the most potent of the three, though its therapeutic usefulness was somewhat limited by the nausea and vomiting occasionally following its administration. It was given in the form of synthetic theophylline (theocin) in doses of 0.3 Gm. (5 grains) three times daily for two consecutive days. Theobromine sodiosalicylate, in doses of from 2.6 to 5.3 Gm. (40 to 80 grains) daily, was given for five or six consecutive days, and was then omitted for at least a week before being repeated. It was regarded as of very little value. Theobromine, in gelatin capsules, was given in doses of 0.6 Gm. (10 grains) three times daily for two consecutive days. It was more effective than theobromine sodiosalicylate and its administration was not attended by unpleasant effects. There was evidence to indicate that the xanthine diuretics are more effective in patients with arteriosclerotic and hypertensive cardiovascular disease than in those with rheumatic hearts.

2. *Merbaphen (Novasurol).*—This drug, introduced in Germany in 1917 for the treatment of syphilis, contains approximately 34 per cent of mercury and is administered in 10 per cent solution. Its diuretic value was first pointed out by Saxl and Heilig.[27]

The chief indication for its use is the presence of edema due to congestive heart failure. It has also been employed in cases of nephritis with edema. Its action is mainly on the kidneys, but in part also on the extrarenal tissues.[28] It is often effective in establishing diuresis when other measures have failed.[29] The dose is 1 or 2 cc. given by intramuscular or intravenous injection. A preliminary injection of 0.5 cc. should be given to test for possible idiosyncrasy to the drug. It is advisable not to repeat the injection at intervals shorter than four days, except following the test dose. Its diuretic action is sometimes enhanced by preliminary or coincident administration of ammonium chloride or ammonium nitrate, the latter being more easily taken. These drugs are given by mouth, in amounts of from 9 to 12 Gm. daily in divided doses, and are put up in capsules or enteric coated tablets.[30]

Following the use of merbaphen, toxic effects, such as stomatitis and salivation, bloody diarrhea, sterile abscesses after intramuscular injection and, more rarely, collapse, are sometimes observed. Evidence of renal irritation is uncommon. Merbaphen possesses certain disadvantages because of its mercurial content, and for that reason should usually be employed only after the xanthine diuretics have been given a thorough trial.

SEDATIVES

Mackenzie has truly said that "little benefit is likely to arise from treatment so long as a patient is worried or sleepless." In this respect, the bromides are most useful, in doses of 1 Gm. (15 grains) three or four times a day. Chloral or one of the derivatives of barbituric acid may also be given. Paraldehyde is safe but unpleasant. For dyspnea or severe pain, morphine and opium should be used in amounts sufficient to relieve distress without too greatly depressing the respiratory center.

MISCELLANEOUS DRUGS

In paroxysms of heart pain, the nitrites, given as glyceryl trinitrate by mouth, or amyl nitrite by inhalation, often afford prompt relief. In coronary sclerosis, euphylline (theophylline-ethylenediamine), in doses of 0.1 Gm., dissolved in water, given three times a day, is frequently helpful.[31] Its administration may be continued over a period of weeks. The action of the drug is to augment blood flow through the coronary vessels. The effect of salicylates or cinchoninic acid derivatives (cinchophen and neocinchophen) on the cardiac manifestations of acute rheumatic fever is problematic. During the acute phases of the disease it is well to administer one of these preparations in full therapeutic doses.

Patients with complete heart block, suffering from frequent attacks of syncope and convulsions (Adams-Stokes syndrome) have, on occasion, been rendered free from attacks by taking barium chloride. This is given by mouth, in doses of 30 mg. (one-half grain) four times a day.[32] Barium serves to increase the irritability of the ventricles and so prevent the long periods of asystole.

In the treatment of cardiovascular syphilis, two factors must be taken into consideration: the syphilitic infection on the one hand and the cardiac defect on the other.[33] Following intensive antisyphilitic treatment, as

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[32] Cohn, A. E., and Levine, S. A.: The Beneficial Effects of Barium Chloride on Adams-Stokes Disease, Arch. Int. Med. **36:** 1 (July) 1925.

[33] Brooks, H.: Syphilis of the Heart, Am. J. Syph. **5:** 37 (April) 1921.

Wile[34] has aptly expressed it, "the patient gets well or better of his syphilis, and may die as the result of the dispersion of his syphilitic cardiac lesion." The action of mercury and iodide is slow and therefore desirable. Bismuth may be substituted for mercury. The arsenicals should be used with caution, preferably after a course of mercury has been instituted. In all cases, the use of these drugs should be combined with intelligent treatment of the diseased heart.

THE TREATMENT OF HEART DISEASE OTHER THAN BY DRUGS *

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Often the most important effects in the treatment of heart disease are through agents other than drugs. Rest and recreation, both physical and mental, exercise in proper amounts, climate, diet, physical therapy, psychotherapy, venesection and surgical intervention come into consideration, though at times brief, in the discussion of the subject.

REST AND RECREATION

Most important of all are rest and recreation, applicable in some degree at least to almost every cardiac patient. Although rest is occasionally abused by being carried out too long or too completely, it is generally not sufficiently employed. Sometimes a certain amount of freedom of choice must be left to the patient, as to how much he should rest, after full explanation of his physical condition has been given him, provided he is an intelligent and reasonable individual, provided his family is protected and acquiescent, and provided his associates and the public are not likely to be injured in any way by his sudden collapse or death. That is, a man may perhaps reasonably prefer to continue at his work at a risk of total disability or death in six months' time, if it does not in any way endanger the public, rather than to remain at home bedridden with survival for several years. Such an individual, however, should try to be fair to his family, his work and himself and not selfishly take unwise chances. One never knows, moreover, when rest, more or less complete, may restore such good health that a return to work in moderation may later be possible without much risk. All this should be frankly and fully discussed with patients who at first lightly and casually may refuse to rest.

The degree and duration of rest must vary naturally with the seriousness of the symptoms and the course of the illness. Each case must be considered individually. No absolute rules can be laid down. However, if after a correct diagnosis has been arrived at there is doubt about rest treatment, it is wiser to prescribe too much than too little. When accidentally through routine examination some serious or important cardiovascular condition is recorded, such as aortic regurgitation, aneurysm or marked hypertension, even though there are no cardiovascular symptoms, some restriction of activity is almost always wise to prolong life. Here again full explanation is necessary in order to obtain full cooperation from the individual. A strenuous person never previously ill may view at first even partial restriction of his activity with alarm and revolt. Gradually he may be led to regard the rest treatment as beneficial or life saving as the case may be, and sometimes it is even possible that he may pass to the other extreme, after weeks or months or years, and through his relish of a relatively idle leisurely life dislike and refuse the thought of even a partial resumption of his old strenuous existence.

Physical rest without mental relaxation may give unsatisfactory results. It is often of some value but far less than when the two are combined. However, it may be necessary first to insist on physical rest before the mind itself will be at ease. Gradually restiveness and worry decrease and finally satisfactory relaxation ensues. Sometimes the reverse is true and it may be necessary to prescribe mental relaxation before the patient will be able to rest physically. He must be relieved of business and home worries and get away from the nagging of the telephone, business letters and visitors before he can sit back or lie down relaxed. It is largely because of this very freedom of patients from their cares that spring waters at celebrated health resorts have acquired their famous healing powers. Often it is a debatable question whether we should allow a man to continue at his business for a day or two, or a week or a month, so that he may clear everything up preparatory to a real physical and mental rest. With mind at ease he may then spend weeks or months resting at home or abroad. But if in the course of this clearing up of his business matters there is danger of disaster to his health or life, a compromise may be necessary or an imperative order to turn everything over at once to somebody else. As a matter of fact we all—business and professional men alike—are apt to think too seriously of our importance. Our places can be well and often better filled than we think. Thus in a given case too much time should not be lost in getting rest treatment under way. Wisdom, tact, good judgment and a little knowledge of the ways of the world may be far more important for the physician to utilize than digitalis, glyceryl trinitrate and peremptory orders without explanation. Sometimes when it has appeared difficult or impossible to obtain sufficient realization of the need of rest on the part of the patient, an accident or necessary operation, if not too grave, may be of great value to the circulation by enforcing rest in bed. Thereby cardiac symptoms and signs may be greatly improved, the improvement more often resulting from the rest rather than from the correction of trouble by operation.

There are all degrees of rest in bed. In the sickest patients, with serious coronary thrombosis, for example, absolute rest is desired for weeks; even turning in bed should be executed with care and with the help of an able nurse. All feeding may have to be done by the nurse. There should be no excitement; only a rare, necessary visitor should be allowed. Physical examinations and history taking may be harmful and also transportation, as to a hospital. I feel confident that some patients would live longer and perhaps survive for years were they not carried to a hospital where they are overexamined and overtreated. Even patients who are not desperately ill but simply chronic invalids, ambulatory at home, may survive only a week or two under the exhausting though theoretically excellent investigations and treatment of the modern hospital. It is in such cases that the experienced wisdom of the old family physician is often far superior to the technical and textbook knowledge and practice of the young intern, resident or specialist.

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[34] Wile, U. J.: The Treatment of the Syphilitic Liver and Heart: A Therapeutic Paradox, Am. J. M. Sc. **164**: 415 (Sept.) 1922.

* Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

Rest in bed affords tremendous relief to the entire system, including the cardiovascular apparatus, if it is peaceful. The heart has only a fraction of the work to do when the body is at rest as when it is active. Digitalis may be unnecessary if rest is prescribed. A combination of these two measures is, however, often necessary to save lives when neither one alone would have sufficed. The recumbent position is sometimes impossible, and the patient must sit up because of orthopnea. Less blood reaches the heart and lungs in the upright position, and so the congestion and work of these organs decreases and relief results. It is important to recognize this point, which is practically and theoretically significant, and not to insist that an orthopneic patient remain in bed if he is far more comfortable in a chair. A suitable bed, allowing a sitting or semirecumbent position, and other devices, may mean the difference between recovery and failure; they seem little things, but in every serious illness little things are as vital as general principles of therapy.

If there is too much excitement at home, more complete rest may be obtained in a quiet hospital or hotel or in the home of a friend. Many people prefer quite rightly to remain at home to get this rest, but they must often be protected from visitors, telephone calls and the postman if they do so. Some people dread and some enjoy hospital care. Every case must be judged individually as to the need and advisability of transfer to a hospital. Sometimes adequate investigation and care are possible only in a hospital, under which conditions such treatment should be urged. Recently I saw a patient with serious heart failure who was kept alive for months through happy and skilful hospital attention, and who died within a week of leaving it.

Absolute rest in bed is sometimes difficult to carry out, especially in the case of patients who find it difficult to become accustomed to the details of such treatment. The use of the bedpan, for example, is not easy for every one. Its use can generally be taught, but sudden death may occur from the effort in its use as in the case of similar patients who use a cabinet at the bedside, or who walk or go by wheelchair to a nearby bathroom. Much individual judgment must be exercised in the prescription of absolute rest. Instructions must be detailed.

Congestive heart failure, acute infection of the heart, usually rheumatic, coronary thrombosis and angina pectoris are the conditions that require the most rest; the first three need rest in bed usually for weeks and symptomatically thereafter, and the last named needs at least some reduction in activity. I have found, as have others, that it is always worth while in obstinate, recurrent or severe angina pectoris to try a high degree of rest, even in bed, if mental relaxation is possible there, and for weeks if necessary. A fortnight or more of such absolute rest followed by a few more weeks of leisurely convalescence may get rid of the angina pectoris for months or years to come. This method, however, is by no means uniformly successful, especially if the patient returns later to his full strenuous life, which may have been in part at least originally responsible for the angina pectoris. In the case of coronary thrombosis, rest in bed should be prolonged for weeks, even in the mildest and most doubtful cases for two or three weeks, and in the more severe cases from four to six weeks at least before permission is given to sit up. Not a few patients are allowed up too soon, and some, even after many weeks in bed, have died suddenly when undertaking their first moderate exertion. A large infarct may take months to heal; it may never heal completely. Life in such cases hangs by a narrow thread. Other patients with important cardiovascular trouble but without symptoms, as those with aortic regurgitation, mitral stenosis, or marked hyptertension discovered accidentally, should naturally be advised to avoid undue strain, as noted, so that the day of failure may be postponed as long as possible. But here, again, individual judgment is always necessary.

PSYCHOTHERAPY

The relations of nurses and physicians to the patient and to each other create an atmosphere which may be favorable or unfavorable to the recovery of the patient who lies in bed very ill. An unpleasant nurse, a disagreeable physician, a fussy patient are all unfavorable. A part of the treatment, often of vital importance, is a cheerful, firm and lovable attitude on the part of nurse or physician. Such is psychotherapy, whether labeled that or not; it is always an important weapon of the physician and nurse against disease. When a successful and cheerful physician holds sway there is no need for Christian science. The ideal family physician in every generation has practiced the best of psychotherapy.

EXERCISE

Exercise as an aid in maintaining good health is beneficial in heart disease, provided there is cardiac reserve sufficient to permit it. When, however, there is angina pectoris or dyspnea on slight exertion, active exercise should not be allowed. During convalescence from cardiac failure or during long rest in bed because of cardiac symptoms, passive exercise such as that described by Schott may, like massage, be helpful in maintaining better peripheral circulation and muscular tone. In this country passive exercise is used but little; perhaps it should be used more. It may be helpful in a psychotherapeutic way if not directly.

Often there is too great a restriction of activity in the case of persons with chronic heart disease. Because there is an injured valve the patient should not be made a chronic invalid, though probably the most vigorous exercise, such as football or mountain climbing, should not be allowed. Some of the patients treated for heart disease at Bad Nauheim in Germany were allowed after their cure to climb the highest Alps, apparently without trouble. It is likely that these people did not have actual heart disease but some temporary functional disturbance like effort syndrome or premature beats. Such mountain climbing in the presence of organic heart disease should most certainly be forbidden.

Walking is probably the best exercise because it is easy for any one to accomplish, and easy to grade from the slowest, shortest walks to the most rapid and longest. Golf is good exercise for cardiac patients with some reserve, but fast, hard competitive playing over hilly holes is usually to be avoided. A few level holes may suffice. Golf has sometimes been wrongly blamed because there may be a death from heart failure on the links. Such deaths are to be expected when one considers the large number of elderly people, often with angina pectoris, who play the game and who would die about as quickly walking along the street. The late Sir James Mackenzie thought golf a suitable game for a man with angina pectoris. He played a good deal himself, even though he had angina pectoris for years. The links at St. Andrews where he played are, however, rather flat along the shore. He told me that he could not walk the half mile from his house to the golf links without being stopped on the way by the heart pain, but that he could play eighteen holes of golf without trouble if he did not hurry. But if golf causes angina pectoris even when played in great moderation the game should be abandoned, at least for the time being. Some deaths from angina pectoris on the golf links should not have happened.

Horseback riding, swimming, rowing, baseball and tennis all vary tremendously according to the speed, intensity, duration and excitement involved; in moderation, they may be indulged in by cardiac patients who have sufficient reserve. The more strenuous sports, such as basketball, football, squash, racing of all kinds and mountain climbing, should be avoided by people with heart disease, and probably too by most persons of middle age and after. I have seen cases in which squash rackets after the age of 50 years was apparently in part responsible for the onset of angina pectoris. Formal drill and routine setting up exercises may sometimes be helpful and better than nothing, but their monotony and the fact that they are so standardized and unsuitable for the individual case make them of limited value.

MASSAGE

Massage may, even more than passive exercise, be helpful in maintaining a sense of well being and muscular and circulatory tone in bedridden or crippled cardiac patients. It is a method of treatment that is rarely used and probably too little. It is especially helpful in local disturbances of muscles, joints and circulation.

HYDROTHERAPY

Hydrotherapy has a very limited place in the treatment of heart disease. Sometimes patients with chronic circulatory disease, such as angina pectoris, arteriosclerosis and hypertension, do benefit from a course of the Nauheim baths given in a pleasant countryside over an interval of several weeks. Effort syndrome due to fatigue is doubtless even more benefited. Patients with very serious heart disease, including congestive failure, are not suitable subjects for these baths.

The mild to marked glow of the skin resulting from the Nauheim baths indicates a peripheral vasodilatation from the combined action of the bombardment by the bubbles of carbon dioxide gas, of the common salt and calcium brine, and of the changing temperatures and durations of the baths. It is quite likely that this vasodilatation is somewhat beneficial; at least it is pleasant. But it is more likely that the few weeks of restful and pleasant vacation from work and home or other previous environment is more directly responsible than the baths for the improvement going on. I do not agree with Sir James Mackenzie's remark that Nauheim salts put into the bathtub at home will do as much good as their use at a health resort. The pleasanter and more beautiful the health resort, the more rapid and complete will be the so-called cure.

What I have said about the Nauheim bath applies almost equally well to other types of hydrotherapy and to such a method of treatment as the salt rub. Special spring waters used for drinking purposes have an indirect but often beneficial effect on the circulation by their laxative and mildly diuretic effects, but too vigorous purgation by very strong saline waters may be exhausting. Sulphur waters internally or externally, so far as I know, do not have a beneficial effect on the heart.

DIATHERMY

Diathermy has come into vogue recently for the treatment of many conditions. It is an electrical method for the application of heat to the body. This heat is distributed more superficially than centrally because of the circulatory diffusion of the heat internally. It has little or no place so far as is now known in the treatment of heart disease. It sometimes soothes pleural pain or precordial aching, probably as a counterirritant, but it may not prevent the recurrence of angina pectoris. So-called autocondensation (high frequency) in which a more general application of heat to the body is made for the purpose of reducing high blood pressure probably has little or no value. Although the blood pressure may be somewhat reduced, doubtless owing to vasodilatation caused by the heat, such a reduction is usually not marked and temporary, especially when the pressure is high, and perhaps fortunately so. It is not yet known as a matter of fact whether it would be safe and wise to reduce high blood pressure appreciably even if that could be done. Slight hypertension, which often varies spontaneously and rapidly, appears to be more readily influenced than is marked hypertension by high frequency.

ULTRAVIOLET AND ROENTGEN RAYS

Ultraviolet rays have no place directly in cardiovascular therapy. By improving the general condition, they may be of some benefit to the heart.

Roentgen-ray treatment has been suggested both for angina pectoris and for acute and subacute endocarditis. It is yet too early to say what good it may do in such cases, although preliminary reports of deep radiotherapy in endocarditis are hopeful.

CLIMATE AND DIET

Climate as a therapeutic agent in heart disease may be dismissed briefly with the statement that mild southern climates, especially in the winter, are often very beneficial and sometimes save and prolong life, particularly in middle age and later when coronary disease and angina pectoris are present. Young persons may perhaps escape further attacks of rheumatic infection, thus avoiding further heart injury, by living in southern climates, especially in the winter and spring.

There are no particular diets for cardiac patients except perhaps the Karell diet devised many years ago for the treatment of cardiac edema, and consisting of 800 cc. of skimmed milk in twenty-four hours (200 cc. four times daily) and a new diet recently advised by Smith, Gibson and Ross.[1] The Karell diet is not only a semistarvation diet calculated to rest the digestive tract and circulation, but also by its low fluid content it favors a decrease in edema. The Karell is a severe diet and cannot be used as a matter of routine. It often helps at the beginning of the treatment of a waterlogged patient, but it may have to be modified quickly after a day or two or even at the very beginning. There may be such a demand for fluid and fuel by the patient that the restricted intake and food value of the Karell diet may cause not only suffering but actual harm.

Generally, repeated small meals at frequent intervals, at first of liquids, later of liquids and soft solids and finally a light general diet, are advisable in the treatment of heart disease, varying according to the degree of heart failure. No particular food is to be advised or forbidden. Heavy meals should be avoided, and hearty dishes, fried foods and heavy pastries. Meat and salt should not be denied, but they should be used only in moderation; meat, for example, once a day when the condition of the patient permits. The desires of the patient should always be consulted so that he may enjoy more what he is allowed to eat. For hypertension the same rules apply as for congestive failure or angina pectoris. There is no specific diet so far as I know. Meats and salts need not be forbidden, though both should be used sparingly. Patients with renal insufficiency may benefit by low protein and low salt diets. The diet recommended in the treatment of cardiac failure by Smith, Gibson and Ross is a liberal one to allow sufficient fuel value; it contains 44 Gm. of protein, 110 of fat and 222 of carbohydrate, and has an energy value of 2,100 calories.

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[1] Smith, F. M.; Gibson, R. B., and Ross, Nelda G.: The Diet in the Treatment of Cardiac Failure, J. A. M. A. 88: 1943 (June 18) 1927.

FLUID INTAKE

Liquids may be restricted as need be. If edema is present and there is no hardship for the patient in keeping the fluid intake at 1,000 cc. in twenty-four hours, it may be so ordered. Great thirst, hot weather and increased perspiration may demand a larger intake in spite of edema. I have seen decided harm follow too rigid a restriction of fluids. Much judgment must be exercised in decisions about individual cases. At the other extreme, excessive fluid intake may be injurious when the heart is not strong. Forcing fluids because of infection or local disease of the urinary tract may be helpful in clearing up infection or in improving kidney, bladder or urethral conditions, but in the process the heart may become insufficient and edema may appear. A reduction of intake then may straighten matters out, as there will still be sufficient fluid to flush kidneys and bladder without overtaxing the heart. A drop in intake from 4,500 to 3,000 cc. (150 to 100 ounces) daily may make a great deal of difference. This applies particularly to elderly men with prostatic disease and operation.

SURGICAL INTERVENTION

Surgical intervention in cardiovascular disease can be discussed briefly. I have already mentioned one of the chief benefits that may come to any cardiac patient through almost any operation if not too severe. The rest enforced by the operation may restore circulatory balance or dispel angina pectoris. Only rarely are cardiac patients poor risks for operation, though, of course, only necessary procedures should be carried out in such cases. Victims of syphilitic aortitis and coronary thrombosis are poor risks at all times and the strain of anesthesia and surgery may be too great for them, although they too must be considered individually.

Cervical sympathectomy for angina pectoris is still in the experimental stage. Some cases have been benefited, but it appears that at least as many, or even more, have not been helped. Various procedures, simple or much more complicated, unilateral or bilateral, have been recommended, all with inconstant results. At times, the simple operation of removal of the left superior cervical ganglion alone has resulted in considerable relief; at times, a far more extensive operation has failed. Whether in the successful cases the pain alone is relieved or whether the mechanism causing the pain is abolished we do not yet know. Of ten cases that I have seen at the Massachusetts General Hospital, in eight of which this operation, mostly of the simplest nature, was done by Dr. E. P. Richardson, and elsewhere in the other two cases (one by Leriche of France), there was no relief at all in six, except for slight temporary improvement resulting from the enforced rest at the time of and following the operation; two patients were moderately benefited; one was apparently completely relieved, and one was much relieved of the intensity but not of the frequency of the attacks of the angina pectoris. The last mentioned patient died of cardiac congestive failure about six months after operation (by Leriche), and five others of the ten have also died shortly after, or within two or three years of the operation. Much more must be learned about the nerve supply of the human heart before the whole story will be known. Incidentally, there may be disagreeable nerve disturbances left as sequelae by the operation. At present, it may be said that cervical sympathectomy should be reserved for cases of obstinate angina pectoris not helped medically.

Another procedure—paravertebral injection of alcohol into the spinal nerve ganglions—has also been recommended for the treatment of obstinate angina pectoris. It quite evidently is intended to relieve the symptom of pain and not to prevent the mechanism of angina. A small series of cases, successful for several months at least, has been reported from New York, and Dr. James C. White has made the injections with some success in four of our cases at the Massachusetts General Hospital. For several months the first patient so treated has been almost free from angina pectoris, which before the procedure had been intolerable. He suffered, however, from very disagreeable hyperesthesia for a few weeks directly after the injection.

Valvulotomy for marked mitral stenosis has been attended by too high a mortality in the few cases done so far to be considered advisable. Periarterial sympathectomy, although apparently helpful in a few cases of disturbances of local circulation, has been in the main so disappointing that it has been largely abandoned.

Pericardial paracentesis is an important procedure, at times life saving or resulting in marked relief of symptoms due to a large rapidly collecting effusion, but it is rather infrequently necessary. When there is pus in the pericardium, incision and drainage may save a few lives. Injuries of the heart by gunshot or stab wounds may be repaired surgically with recovery, as shown by an impressive list of cases recorded in the literature, especially during the World War.

Venesection may save lives by relieving the heart temporarily of some of the burden of its work of pumping more blood than it is capable of doing at the time of acute or increasing failure. Now and then its effect is dramatic, though it is not often needed. The removal of a few hundred cubic centimeters of blood from an arm vein may clear up symptoms of pulmonary edema and relieve visible venous engorgement and cyanosis.

SUMMARY

In the treatment of heart disease, the most important relief frequently comes from agents other than drugs. Rest and recreation, physical and mental, exercise, climate, psychotherapy, physical therapy, regulation of the diet and of the fluid ingested, surgical intervention and venesection all have a place of variable importance in the therapy of acute and chronic heart disease.

[EDITORIAL NOTE.—This paper, together with the three papers by Dr. Eyster, Drs. Hatcher and Weiss and Drs. Levy and Mackie, which precede it, in addition to the two papers by Dr. Read and Dr. Conner, to appear next week, constitute a symposium on the treatment of heart disease. The discussion will follow the papers to be published in the next issue.]

TREATMENT OF NERVOUS INDIGESTION *

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Having in mind that ancient recipe for rabbit stew which begins with the injunction, "first catch your rabbit," I begin this paper with the suggestion that you first be sure of your patient's neurosis before you begin to treat him for it; be sure that he is not suffering from something else besides nerves. When one sees how often the skilled gastro-enterologist with every form of technical assistance at his command makes the mistake of treating as a "neurotic" some one who has gallstones, tumor of the cord, incipient tuberculosis, or cancer of the stomach, the need for caution becomes obvious.

If only, then, because we may be mistaken, we should be particularly careful to avoid conveying to our patients the impression that we think there is nothing the matter with them. They may be neurotic, hypersensitive and overcomplaining, but that does not render them immune to organic disease. In fact, years of suffering from organic disease is often the cause of the very querulousness that excites our distrust. Time and again when I have learned of one of my blunders I have gone back over the patient's record and have been surprised to find there every indication pointing to the diagnosis that should have been made. The trouble evidently was that I did not believe what I was told; I listened to so many versions of so many minor complaints that I wound up by discounting almost everything that was said about the major ones. If only I had not seen the patient, I would have made the correct diagnosis.

Hence it is that the longer I practice medicine and the more I see of my mistakes, the more inclined I am to give the patient the benefit of the doubt, and the less willing I am to believe that he is spending his time and good money for the fun of telling his troubles. There are doubtless some who like to do this, but even they are not normal, and instead of being incensed or contemptuous, we should be sorry for them, and ready to smile with them at some of the things they do.

Most of those who seek relief have really been suffering and have been driven to our offices by some form of distress. Even when the most careful examination does not reveal anything, we must choose our words with care to avoid giving the impression that we think the symptoms are wholly imaginary. Distress arising in a tired or unbalanced brain can doubtless be more trying than that arising in a diseased stomach, and I mean it when I tell many of my neurotic patients that I would rather suffer a broken leg than go through what they are experiencing. I find it helpful to point out to them that although it is obvious that the digestive tract is not functioning properly, the chances are that the most careful exploration would not reveal anything that a surgeon could operate on. Even that does not mean always that there is nothing organically wrong. When I think of the millions of microscopic structures whose functions might fail and the countless billions of cells whose chemical processes might be upset, I marvel, not that we sometimes fail to demonstrate gross pathologic changes in the diseased body, but that we do so often find them.

Our fondness for calling patients unpleasant names, such as "neuro," "neurasthenic" and "hypochondriac," doubtless makes for us innumerable enemies, and it certainly swells the ranks of those who go in for the various forms of quackery. As we ourselves sometimes discover, when we fall ill with vague and subjective symptoms, it is heartbreaking to have one consultant after another treat our troubles as a joke, and but thinly veil his impression that we are making mountains out of molehills. And later what a feeling of justification comes over us when some one discovers that, in addition perhaps to a fatigue neurosis, we did have an ulcer, hypertension, or something else radically wrong.

Hence it is that the handling of the patient, the results of whose examination are negative, requires the greatest care, tact, sympathy and kindness. After reviewing the record and explaining that nothing has been found that would justify exploring the abdomen, I find it well to admit that although this should occasion considerable rejoicing, it also has its disappointing side. I try to assure the patient of my confidence in the existence of his symptoms, and I remind him that digestion can doubtless be upset in sensitive persons by strong emotion, fatigue, improper methods of eating, or constipation.

If the patient has been overworking and losing a great deal of sleep, I picture to him thousands of delicate brain cells crying out for rest; I suggest that he give heed to their complaint, that he cut down on work, try a simpler diet and better methods of regulating the bowels, and see what happens. If everything clears up, we shall be happy; if some of the symptoms disappear and others remain, or if new ones appear and others get worse, the correct diagnosis may either become obvious or another careful examination may show what is wrong. One great advantage of this method is that I have not burned my bridges behind me. If things go wrong, if new symptoms develop and the diagnosis becomes obvious even to a tyro in medicine, I shall not be humiliated by having my mistake corrected, perhaps by some unfriendly critic, and I shall not have earned the contempt and enmity of the patient and his family. The most dangerous thing we can do is to try to reform a supposedly neurasthenic person by giving him a harsh "dressing down." It doubtless does good in some cases, but I would rather let the other fellow try it. For one person who can be driven in anger there are hundreds who can be led with sympathy, understanding and friendliness. The finest physician is kindly and generally able to see something lovable in the most crabbed of his patients. When he can do this they feel it and are likely to respond with the best that is in them. The physician who cannot find it in his heart to like these patients, to sympathize with them, and to take endless pains in trying to help them had better leave them alone. One of the best ways of preparing for this work is to have a nervous breakdown oneself, but not every one can do this.

The treatment of the functional disorders of digestion may be discussed under four headings: (1) psychotherapy and instruction in mental and physical hygiene; (2) physical therapy, exercise and massage; (3) diet, and (4) drugs.

PSYCHOTHERAPY AND INSTRUCTION IN MENTAL AND PHYSICAL HYGIENE

The first and often the most important step in the psychic treatment is taken when the physician makes a complete and careful physical, roentgenologic and

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* From the Division of Medicine, Mayo Clinic.

* Read before the Section on Pharmacology and Therapeutics at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 20, 1927.

laboratory examination. If this does not reveal signs of serious disease, many persons immediately lose interest in their symptoms and go away satisfied. Another important factor in the psychic treatment is the taking of a good history, and especially a history that brings out all the details of family and business worries, of domestic infelicity or of the phobias that so often are at the bottom of the trouble. Unless these things are done, it is not only useless but often criminal to tell the patient not to worry. Some consult us simply because they have been shocked by the sudden death of a friend or relative. They fear that they too have cancer or heart disease, but they will not admit it, and come complaining of some minor ailment. Especially when dealing with older patients, it is often well to say at the close of the examination: "As we examined you we had always in mind the possibility of cancer beginning somewhere, and we are now glad to say that nothing suspicious has been found."

If the patient is worrying we must not simply tell him to stop worrying, but must delve to the bottom of his difficulties because it may be that they have no possible solution, and that if we were placed in his predicament we should be equally sick in mind and body. Under such circumstances it is silly and heartless to tell him to do what we could not do. This is particularly true when the main source of anxiety is poverty and debt, or a marriage that is going on the rocks. Particularly difficult to deal with are the women who cannot make up their minds about getting a divorce, and those who lead a cat-and-dog existence with their husbands but who are chained to them by love for their children. The wrangling at mealtimes seems particularly detrimental to the digestive processes, and as some wise old Jew once pointed out, "Better is a dry morsel and quietness therewith than a house full of feasting with strife" (Prov. 17:1).

Fortunately, much can be done in many of these cases by giving the patient the mental purgation that comes with the pouring out of secret worries into a sympathetic ear. The physician can often help these persons by advising them wisely, and by leading them out of a maze of muddled thought to the point where they can forgive and forget, and acquiesce to things that cannot be cured. For years I have kept in my office a copy of Trudeau's autobiography with a bookmark at page 318 in order that I may turn quickly to his remark that he had learned from his patients that "the conquest of Fate is not by struggling against it, nor by trying to escape from it, but by acquiescence." The asthenic person, the person with mucous colitis, or the one to whom nature has given a "raw deal" can often be made over into a useful and happy member of society if he can be taught this lesson of acquiescence: to stop looking for a cure and instead to settle down to get along as best he can with his handicap.

The next thing in most cases is to see how a rest can be obtained with the least expense and loss of income. If a vacation is taken, it must be one that will bring the patient back better off than when he left. Too often our vacations are of the type that caused the Irishman to remark plaintively, "How happy we'd be if it weren't for our pleasures." If a man cannot well leave his business, he can often, for a month or two, answer his mail and confer with his assistants in the mornings, and can then spend his afternoons at home or on the golf course. I have seen such excellent results from this type of resting that for business men I prefer it to a complete vacation. The mother with several small children and few resources can also be helped tremendously if she is taught to go back to bed after the children are sent off to school. She may have to continue with mending and sewing, but even so, a few weeks of mornings in bed will often work a miracle.

A rest-cure in a sanatorium, with or without overfeeding, is often helpful if the patient can afford it without worrying about the expense. Unfortunately, it is beyond the reach of those who need it most. Unless the sanatorium is a good one, the cure will go much better in the home of a devoted relative. Hospitals unfortunately ignore the fact that the sick and nervous are slow in getting to sleep, and are helped most by the rest that they get between 5 and 9 in the morning. Instead of allowing such rest, they get the patients up at 6 or 7 o'clock, so that everything can be done and out of the way for medical rounds at 8; it is fine for the physician and the chef but it is hard on the patient.

Another difficulty with hospitals nowadays is that many of the dietitians are obsessed with the desire to stuff their patients with vitamins and iron in the form of greens, spinach, salads and fruits. They forget that their guests are going to be with them for only a few days or weeks, and that they could easily get along during that time without any of these substances, and in spite of everything a mere physician may say or do, he is likely soon to find his patients back on spinach, salads, fruit and bran muffins. Fortunately fads are self-limited diseases, so the time is doubtless coming when spinach will retire into the background, and milk toast, custards and calf's-foot jelly will again appear on the tray of the invalid.

The sick who are so situated that they must either keep at work or starve can often be taught to hoard their small stock of energy and to live within the limits of their nervous strength. Many tire themselves out by putting too much energy and emotion into trivial tasks. Women in particular must be exhorted to break themselves of the habit of getting all stirred up over little things, and of reviewing at great length painful or annoying experiences which a more sensible person would promptly forget. Others must be taught to go to bed earlier at night and some must for a time retire from leadership or active participation in church, civic or social work. Some can get their grip again if they will only rest in bed on Saturday afternoons and Sundays.

As I have already pointed out, many take their holidays too strenuously: they drive too far in automobiles, they work too hard in their gardens, or they do things that leave them more tired on Monday morning than they were on Saturday night. They must learn the truth of Mosso's statement that all their energies come from one source, and that when mentally tired it is not wise to exercise so strenuously as still further to take away from a small store of strength.

THE SECURING OF SLEEP

In innumerable cases all the patient needs to bring back his health is relief from insomnia, but unfortunately physicians often fail even to ask about sleep, and thus miss the chance to work a cure. The neurotic person needs to get away from his tumultous and bothersome thoughts; he needs rest, and it should be obvious that little can be done for him until he learns, again, to sleep. Strange to say, many physicians are not only uninterested in the insomnia but they are much disgusted when some one prescribes drugs for its relief. Time and again I have brought a nervous patient almost back to health and full-time work, only to see her plunged back into insomnia and despair by the angry protests of some medical friend of the family who raged about "weak-kneed dope fiends" and prophesied disaster.

To be sure, something can often be done to relieve insomnia by teaching the patient to keep his mind off disturbing thoughts, to avoid mental work or exciting conversation after dinner, to take a warm bath and a little food on retiring, and to go to bed earlier. But often these measures fail, or the worries and discomforts that have caused the insomnia cannot be removed. The less the patient sleeps one night, the less able he is to sleep the next, and the only thing that will break into the vicious circle is a sedative drug. The man with a broken leg is not held up to scorn if for a time he uses a crutch, so why should the victim of insomnia be scolded when he uses a somewhat similar device?

Unfortunately, to the layman and to many physicians a sleeping draft still means opium or one of its derivatives, but in this enlightened age this should not be the case. Morphine is a good pain reliever but a poor sleep maker. Its effect is transient and often unpleasant, and its use in insomnia would be worse than foolish. Even after operations I think surgeons would do well to use more barbital and less morphine; its effects last much longer, it is a sedative to the vomiting center, and it lacks the unpleasant by-effects of morphine. In the form of soluble barbital it can, if necessary, be given intramuscularly.

These newer synthetics have no relation to morphine; they have none of that "kick" that makes the taker wish to repeat his experience, and except in the case of the markedly psychopathic person, I am sure they are perfectly safe. I have been prescribing them for twenty years and have yet to see an habitué in my own practice. Actually, in a practice limited largely to the diagnosis and treatment of gastro-intestinal disease, I have found one of the most useful drugs to be not pepsin or bismuth, but carbromal, a sleep producer. Carbromal (bromdiethylacetylurea) is used in doses of from 0.3 to 1 Gm. (5 to 15 grains). In those who are sensitive to drugs, 0.3 Gm. at bedtime will make all the difference between a restless and a restful night. Barbital, or veronal (diethylmalonylurea), produces headache in some persons and a little "hangover" in the morning, especially if it is taken after midnight. All these drugs are best given early when the patient goes to bed. Phenobarbital (phenylethyl barbituric acid) can be given day or night in doses of from 0.05 to 0.2 Gm. (0.75 to 3 grains).

There are a few highly neurotic and psychopathic persons who do not react well to any of these barbituric acid derivatives; instead of becoming quiet they get excited, and if they doze off to sleep they soon awaken with nightmares. They often do better on chloral. The only trouble I have ever had with these drugs has been in trying to get the patients to use them long enough. They are afraid, they are influenced by alarmed relatives, physicians and nurses, and they give up the "crutch" before they have learned to walk alone.

Certain nervous and asthenic patients must be guided into less laborious forms of employment, and others must be induced to change their mode of living so that they can get better food and happier surroundings. There is no detail of the patient's life so trivial that it may not play a part in keeping up a neurosis which is expressing itself in some form of indigestion, and the physician must find what it is and if possible correct it.

PHYSICAL THERAPY, EXERCISE AND MASSAGE

Many of the weak and partly bedridden patients can be put on their feet, literally and figuratively, only with the help of an intelligent, cheerful and masterful physical therapist who can build their strength until they can stay up all day. Each day the invalid is given something to do, something to think about, something to hope for, and some one with whom to talk. Not all persons, however, are helped by massage. Only those "pussycats" who love to be stroked will thrive on it; those who are ticklish or who hate to be touched by strangers will be made worse. Stoutly built men who were once athletic but who have since become flabby and fat can often be helped by a course with a trainer. Ultraviolet radiation, in my experience, helps in raising resistance, improving appetite and putting on weight.

These physical therapeutic measures are invaluable in many cases if only because they keep the patient busy and hopeful and bring him back repeatedly under the influence and guidance of the physical therapist and the physician. They keep him out of mischief and out of the hands of the quacks. One of our biggest mistakes in medicine today is that we have allowed others to monopolize these modes of treatment. One of the great advantages of having the work done under our supervision is that we can be watching the patient, learning more about his troubles, and seeing him on occasions when he has something definite and telltale to show us, like a fever, a point of tenderness, or a tinge of jaundice.

DIET

Often the main thing we have to do is to encourage the patient to eat. Dyspeptic patients tend to cut out first one article of food and then another until little is left. When we are satisfied that the trouble is a pure neurosis it may be best not to prescribe any diet; let the patient see as clearly as possible that his help must come through rest and mental discipline and not from drugs and special foods.

Nowadays one of the simplest ways of helping dyspeptic persons is to take away their bran mush and their muffins. The enthusiast on bran forgets that he is prescribing the substance simply because it is one of the most indigestible to be found in nature; it was especially designed to carry seeds unchanged through the digestive tracts of the herbivores. And yet they call it a health food! Those who, except for constipation, have a perfect digestion may be greatly helped by the addition of roughage to the diet, but others who have short, inefficient and irritable bowels get into trouble; they fill with gas, they are distressed, and some go rapidly down hill. I remember one woman in particular who for ten years had kept herself in fair health only by sticking to the smoothest diet, the details of which she had worked out for herself by the method of trial and error. A physician then talked her into taking bran for her constipation and in a few weeks she had to be operated on for the relief of intestinal obstruction. A section of ileum was found twisted, bound to the stump of a partly removed uterus, greatly narrowed, and nicely packed with the bran. It should be obvious that roughage cannot be prescribed for every one, and at times the factor of digestibility in a diet must come first.

When prescribing a diet for a man or a woman with a functional disturbance of digestion it seems to me that our first thought should be to give the tract a rest. We cannot give it a complete rest because that would weaken the patient; generally he has to keep at work; he often needs strengthening, and sometimes he needs fattening. Under the circumstances we must think more of what we are to give him than what we are to take away. Furthermore, many dyspeptic persons are so handicapped either congenitally or by serious abdominal disease in childhood or youth that they will probably always have to be careful about what they eat. Hence it is that we must not prescribe too restricted or monotonous a diet; we must give enough food of all kinds so that if the diet proves helpful it may be followed for years.

Long ago, when I first began the study of dietetics, the subject seemed to me hopelessly complicated. I could find diets for almost every disease, but authorities did not always agree, and I could seldom learn why they approved one food and forbade another. Sometimes a patient would show me several diet slips given him by as many physicians, and as I read the widely different instructions I wondered how he still could retain confidence in the profession. In my perplexity I began to examine hundreds of stools to see for myself what substances commonly escape digestion, and I found that many of the patients who were complaining of flatulence and abdominal discomfort were bringing stools full of coarse, undigested material, consisting mainly of cellulose. I then asked these persons either to stop eating the offending substances or else to have them puréed, and as soon as they began to bring me stools which were smooth and pastelike in consistency, some of them began to report relief from flatulence and distress. Many had already discovered that they could not digest vegetables and raw fruits but thought this was due to the acids contained.

On searching through the literature, I found that the virtues of a smooth diet had been known in the past to many physicians, including the Father of Medicine. I thought at first that they were to be ascribed to the fact that cellulose is so indigestible, and its presence so likely to interfere with the action of the ferments on starches and other foods; but later, when I learned that food goes down the bowel following a gradient of muscular irritability and rhythmicity, that in the sick this gradient is in places leveled or reversed, and that liquids will flow through reversed places while solids will not, I saw that there was still another way in which the smooth diet might be helpful. This is shown most strikingly in the experiment in which a section of bowel is cut out, reversed end for end, and the continuity of the tube restored with two anastomoses. As has been shown repeatedly, such a reversed loop will transport fluids but never solids. Evidently the original gradient of muscular force remains unchanged in the reversed segment, so it is like an uphill stretch in a pipe line that will transmit water but not stones. Animals with such reversed loops live comfortably only so long as indigestible articles can be kept from them, and when they die the necropsy always shows that a mass of straw and wood and bone has accumulated and that it has produced obstruction at the site of the upper anastomosis.

We can therefore say to a man with a flabby tract or a tract with irritated, narrowed or reversed stretches that he should avoid eating cellulose-containing foods for much the same reason that he avoids putting paper, bits of wood, and cotton down a drain which has a poor drop or, somewhere in its course, an uphill stretch.

But even if we disagree as to the mechanisms involved, the fact remains that since the time of Hippocrates a smooth diet has been found to help many sufferers from indigestion. It is a good diet to prescribe while one is studying a patient and whenever one is in doubt about the diagnosis. I hope the day will come when something like it will be made the basic or routine diet in hospitals. At present the full diet with salads, fruits and vegetables is basic and is put on the trays until the physician orders something else. As a result I have seen the roughest and most indigestible of foods on the trays of persons just beginning to eat again after severe operations on the stomach and bowel. This sort of thing might occur less frequently if the full diet were to be supplied only on special order. Some hospitals go to the opposite extreme and supply a soft diet until something else is ordered; but that works badly when the physician forgets and some meek fellow with a big appetite and, let us say, a smashed foot is left for days on milk toast and gruel.

The average physician who has not had much training in dietetics is inclined too often to fall back on the use of a milk diet. I think this is unfortunate because in my experience the invalid who can digest milk will do just as well on moderate amounts of food chosen from the smooth diet list. Besides, milk does not agree well with many persons: It makes them "bilious" and constipated; it is too bulky, and it leaves a large residue in the lower small intestine.

Following is a list of instructions and foods such as I often give to patients, when recommending the smooth diet:

This diet is based not only on practical experience but on a number of scientific principles. We have no ferments in the digestive tract which will dissolve cellulose, that is, the fibrous part of vegetables and fruits. Most of this material is quite indigestible, and if we eat much of it we throw a heavy burden on the bowel. This fiber interferes with the digestion of starches and predisposes to flatulence.

If there happen to be narrow or irritated places in the bowel, or kinks with adhesions, the fiber may cause clogging and back pressure. The ideal diet in such conditions is one which leaves only a small liquid residue which can trickle past the obstructions; in this way it will often give prompt relief. This smooth diet is indicated also when the bowel is irritated, overly active and responsive to every stimulus.

It should be tried out faithfully at first, and then if it works well other foods may be experimented with, one at a time. You may have learned by experience that some of the foods allowed on this list are hurtful to you; in that case leave them alone.

If you are to give this diet a fair trial, eat no coarse foods with fiber, skins, seeds or gristle. Avoid particularly salads with celery, tomatoes, cucumbers and pineapple, many of the green vegetables, raisins, berries, jams full of seeds, nuts, and many of the raw fruits. Beans, cabbage, onions, green or red peppers, melons, cucumbers and peanuts are notoriously gassy. If you are living in a boarding house you can stick to this diet by simply avoiding the forbidden foods and eating more of the digestible ones which are put before you.

Avoid sugar in concentrated form and take no candy or other food between meals. Hot cakes and waffles might not be bad if they were not eaten with so much syrup. Fried foods are not bad if they are properly fried, that is, totally immersed in fat at the right temperature. Avoid eating when in a rush and when mentally upset. Family rows should be held away from the table. Chewing gum may cause distress, as much air is swallowed with the saliva. Digestion is greatly helped by a good chewing surface. If there are any gaps in your teeth have your dentist fill them with bridges. Purgatives often cause flatulence and distress in the abdomen.

The following are suggestions for breakfast: orange juice, grapefruit (avoid the fiber in the compartments); cantaloup and melons are inadvisable. Coffee, if desired, is allowed in moderation; it sometimes causes flatulence. If you are sensitive to caffeine try kaffee hag or instant postum Chocolate, cocoa or tea, one or two eggs with ham or bacon (avoid the tougher part of the bacon), white bread, toast or zwieback with butter, any smooth mush such as farina, germea, cream of wheat, cornmeal or rolled oats,[1] puffed cereals and cornflakes are also allowed. Shredded wheat biscuits and other coarse breakfast foods are not allowed Bran is particularly harmful Graham bread is permitted but not the coarser whole wheat bread.

Suggestions for lunch and dinner: In fruit cocktails avoid the pieces of orange and pineapple Broths, bouillon, cream soups and chowder are allowed, also meat, fish or chicken, squab or game, excepting duck (avoid the fibrous parts and gristle). Veal may be tried; it is not digested well by many persons Eat no smoked fish or pork. Crab and lobster had better be left alone Oysters and sausage may be tried later.

Bread and butter are allowed, and hot biscuits if they are made small so as to consist mainly of crust. Rice, potatoes, baked, mashed, hashed brown or French fried, are allowed; and later may be added sweet potatoes, hominy, tomatoes stewed, strained and thickened with cracker or bread crumbs, well cooked cauliflower tops with cream sauce, asparagus tips, Brussels sprouts, squash, beets, turnips, creamed spinach, Italian pastes, noodles, macaroni and spaghetti cooked soft, purées of peas, beans, lentils, lima beans or artichoke hearts All skins or fiber should be removed by passing the food through a ricer Sweet corn may be used if passed through a colander There are practically no other vegetables that can be puréed to advantage. String beans[2] are allowed if they are young and tender

No salad should be taken at first Later you may try a little tender lettuce with apples or bananas, tomato jelly or boiled eggs Mayonnaise and French dressing are allowed. Potato salad without much onion may be tried

Suggestions for dessert are simple puddings, custards, ice cream, jello, plain cake and canned or stewed fruits, particularly pears and peaches Cottage cheese is permissible; other cheeses often cause trouble Apple, peach, apricot, custard and lemon cream pie may be tried if only the filling is eaten.

In case of constipation, stewed fruit may be taken once or twice a day In winter the dried pared fruit may be used for stewing Prunes are probably the most laxative of fruits and if eaten every other morning they will relieve the average case of constipation They should be cooked slowly until they almost go to pieces If the skins are still tough they should be discarded Apple sauce is much more palatable if made from unpared and uncored apples The sauce is strained later. It may be mixed with a little tapioca or sago. The apples may be baked. Apples, even when cooked, often cause distress Blackberries and loganberries can be stewed and strained and the sweetened juice thickened with cornstarch This makes a delicious dish with the full flavor of the berries. Later you may try fully ripe pears and peaches

Make no effort to drink water. Be guided by your thirst. Avoid excessive use of salt or other seasoning If you wish to gain in weight eat as much cream, butter, fat and starch as you can If you wish to lose or to stay thin, live largely on vegetables, fruits and salads, with a moderate amount of lean meat.

As will be seen, the essential point is that the patient does not eat coarse foods, with fiber, skins, seeds or gristle. He must not eat salads, celery, tomatoes, cucumbers or pineapple, and must avoid many of the green vegetables and raw fruits, and such things as raisins, nuts and jams full of seeds. It is also wise to cut down on the amount of sugar, and to interdict all sweets between meals. The diet should be tried faithfully for a time and if it works well it can be adhered to; if it does not give relief within a few weeks, the trouble is probably not one that is going to be relieved by any form of dietetic restriction.

If the patient is underweight, it may be helpful to add plenty of cream and butter to the diet. If constipation is present, it is essential that it be regulated with the help of the mildest measures, such as enemas of physiologic sodium chloride solution or small doses of magnesium oxide. Until this is done one cannot tell how much of the distress complained of is due to constipation or to the abuse of purgatives. The most tasty and perhaps the best bulk producer for the constipated person is the prune. In my experience some sufferers from constipation can be completely cured by a good proctologist who will heal fissures and infected crypts and will remove irritable hemorrhoids.

In order that I be not accused, as I often am, of being a crank with one idea, I want to say here that I am well acquainted with the virtues of a rough diet, and I often prescribe it for the constipated and the obese patient. Some day I may write an article on the use of roughage in the diseases in which it is helpful, but just at present I happen to be talking about the cure of those with weak and defective digestion.

One of the most valuable features about a short course of careful dieting is that if the patient does not respond, or if while in the best of condition he or she comes down with an acute attack of pain and indigestion, the physician can be sure that there is something organically wrong. When dealing with the type of woman who takes a purgative and several enemas a day, one must have the help of a good nurse to see that orders are being carried out. These persons love their enema bag as a morphine fiend loves his hypodermic, and it takes some time and effort to break them of a troublesome habit.

DRUGS

The use of hypnotics and sedatives has already been discussed. Most of those patients who are greatly helped by alkalis such as sodium bicarbonate or magnesium oxide will, I think, be found to be suffering from ulcer or some other organic disease. We still need better carminatives. The one I have found most useful is peppermint. The most pleasant preparation to take is crème de menthe, but that is now inaccessible except in the nonalcoholic form. One can, however, duplicate the true cordial fairly well by diluting with simple syrup the French preparation alcohol de menthe. There are many carminative tablets on the market, most of them containing aromatics of various kinds with some sodium bicarbonate, and occasionally some charcoal. It is doubtful whether the latter ingredient, when wet, can absorb any gas. In most cases the gas is probably in the descending colon and splenic flexures, and then the best carminative is an enema.

I have little faith in tonics and bitters and seldom prescribe them unless I see that the patient is otherwise going to feel neglected. I think their value is largely psychic, and for that reason when I do prescribe one I like it to have an impressive name like "beef, iron and wine." Under the influence of those magic words a man surely ought to eat more than if he thinks he is getting only the prosaic iron, quinine and strychnine. Intramuscular injections of cacodylates may do some good directly, but I think often their main use is to bring the patient back at frequent intervals for observation and encouragement.

Incidentally, it seems to me that strychnine should be the last drug on earth to give to a nervous person.

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[1] A fine oatmeal can be obtained by calling for Robinson's Scotch Groats

[2] Large tender string beans which can be used as a vegetable or salad can now be obtained in cans.

The poor soul is already on edge, with reflexes exaggerated, senses hyperacute, and the doorways in brain and cord open to every incoming stimulus. What is wanted is some derivative of bromine or barbituric acid which will close the doors and quiet the reflexes, and not a drug like strychnine, which is preeminently a sensitizer and a connector of nervous pathways.

I doubt whether there are many gastro-enterologists today who ever use pepsin or pancreatin unless it is in cases of definite gastric or pancreatic achylia. As Fermi[3] showed years ago, they have no influence on gastric digestion unless given in enormous amounts. Carlson and his associates were unable also to demonstrate any effect from the various bitters. Bismuth is another drug which the specialist now seldom uses except in cases of diarrhea, and then he gives it in tablespoonful doses. Belladonna in physiologic doses is so annoying to many patients that I rarely use it.

The drug that we really need most in gastro-enterologic practice today is one that will restore the downward current in the digestive tract and will put a stop to nausea, belching and acid regurgitation. Unfortunately, we have many drugs that will reverse the current, but with the possible exception of calomel, I do not know of any that can be counted on to restore its downward trend. Minor degrees of nausea can sometimes be relieved by lowering the irritability of the vomiting center with small doses of carbromal or phenobarbital.

SUMMARY

Before treating a patient for nervous indigestion the physician must be sure that this is the correct diagnosis. Many persons are suffering from organic disease which later becomes apparent; hence it is unfair and unwise to call them unpleasant names. A complete examination must be made before the physician is justified in reassuring his patient. Such an examination is one of the best vehicles for psychotherapy.

The history must be gone over repeatedly until the physician has gained a thorough understanding of all the factors likely to produce a neurosis. When the condition has been diagnosed, such measures as rest, physical therapy, diet and drugs should be considered in its treatment.

ABSTRACT OF DISCUSSION

Dr. G. H. Wood, Detroit: The point I wish to emphasize is that in considering these problems we need to think not only of the patient, but also of the physician himself. I have known of cases in which the physician himself, or some member of his family, has been sick and badly in need of treatment, and was unable to get it on account of the conditions that Dr. Alvarez has brought out—cases in which such signs as hematuria, clay colored stools and various real symptoms have been overlooked by first class men, and the patient has been patted on the back, told to cheer up, forget his worries and go on his way rejoicing.

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[3] Fermi, Claudio: Ueber die Verdaulichkeit der Speisen im Magen in Beziehung zur Hygiene, Arch. f. Physiol., 1901, supp., pp. 1-83.

Vital Capacity in Pulmonary Tuberculosis.—Vital capacity tests were made by Concepcion on 116 normal persons between the ages of 18 and 30 years, and on fifteen tuberculous patients between the ages of 27 and 54 years. The mean vital capacity observed in the 116 normal persons was 3,275.86 cc. ± 31.8148, while that of the fifty-one tuberculous patients was 1,631.38 cc. ± 33.74. The mean vital capacity of the tuberculous patients was only 49 per cent lower than normal. The average lung capacity of the normal persons per square meter of surface, was 2,022.18, and in tuberculous individuals, 965 cc.—Concepcion, I.: *Philippine Islands M. A. J.* **7**:91 (March) 1927.

CALCIUM CARBONATE AND CALCIUM BICARBONATE

HYDROGEN ION CONCENTRATION OF SATURATED SOLUTIONS IN WATER

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Loevenhart and Crandall[1] have recently suggested the use of calcium carbonate in the treatment of the gastric hyperacidity syndrome. The reason for suggesting it was that calcium carbonate is a very insoluble substance and that the suspension is apparently neutral in reaction, although it has a high neutralizing power for acids. In this connection we decided to determine the hydrogen ion concentration of suspensions of calcium carbonate in water in the absence as well as in the presence of carbonic acid. Our search of the literature failed to reveal any study of this question.

PREPARATION OF SOLUTIONS

The calcium carbonate used was prepared by precipitation from calcium hydrate solution with carbon dioxide. The saturated calcium carbonate solution was prepared by washing the precipitated salt with an abundance of conductance water, after which it was dissolved in conductance water free of carbon dioxide. After the solution had been allowed to come to equilibrium at 25 C., the clear liquid was decanted and used for the various determinations.

The calcium bicarbonate solution was prepared by passing pure carbon dioxide gas through a portion of a calcium carbonate suspension, prepared in the manner described, until equilibrium was reached.

EXPERIMENTAL RESULTS

The p_H values of the various solutions were determined by the usual potentiometric methods. In all cases the measuring instrument used was a Leeds and Northrup Type K potentiometer. In calculating the p_H values given in the accompanying tables, the value of the tenth-normal potassium chloride-calomel electrode was taken as 0.337 volt, and that of the normal potassium chloride-calomel electrode as 0.283 volt. The potential of the quinhydrone electrode in a solution of hydrogen ions of unit activity was taken as 0.6990 volt at 25 C. The solutions were maintained at 25 C. during each measurement.

Table 1.—*p_H Value of Saturated Calcium Carbonate Solution at 25 C*

Sample	Average Voltage	p_H Value
1	0.8580	8.81
2	0.8480	8.64
3	0.8610	8.86
4	0.8600	8.85
5	0.8540	8.75

The p_H value of the calcium carbonate solution was determined by means of the hydrogen electrode, a tenth-normal potassium chloride-calomel electrode being used as reference. The results obtained are summarized in table 1.

The p_H value of the calcium bicarbonate solution could not be determined with the hydrogen electrode because the passage of hydrogen through the solution removed carbon dioxide from it. It was necessary to resort to the quinhydrone electrode. This electrode was used with a normal potassium chloride-calomel electrode as reference. The results of the measurements are given in tables 2 and 3.

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[1] Loevenhart, A. S., and Crandall, L. A.: Calcium Carbonate in Treatment of Gastric Hyperacidity Syndrome, J. A. M. A. 88:1557 (May 14) 1927.

Table 2.—p_H *Value of Calcium Bicarbonate Solution (Carbon Dioxide Passing Through Solution)*

Sample	Average Voltage	p_H Value
1	0.0635	5.97
2	0.0625	5.99

Table 3.—p_H *Value of Calcium Bicarbonate Solution (Without Excess Carbon Dioxide)*

Sample	Average Voltage	p_H Value*
1	0.0495	6.20
2	0.0509	6.18

* As carbon dioxide was removed, by shaking, by passage of inert gas through solution, etc., the p_H value of the solution increased at once.

SUMMARY

The clinical significance of these results is apparent. The p_H value of a saturated solution of calcium carbonate is 8.8. In the presence of carbon dioxide, in quantity sufficient to saturate the suspension, it is 6.0. Therefore, calcium carbonate would seldom, if ever, produce actual alkalinity of the gastric juice.

EPITHELIOMA OF THE PENIS

REPORT OF FIVE CASES *

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My purpose in this paper is to report five cases of penile cancer in which operations were performed by me in the Atlantic City Genito-Urinary Clinic during the last four and one-half years. It is not my object to present anything that has not already been given in previous articles on this subject but to call to the attention of the medical profession the fact that cancer of the penis is not an exceptionally rare disease but is sufficiently uncommon to be of interest, especially from a therapeutic and prognostic standpoint, and should be considered as a possibility in cases in which there are lesions on the penis that do not respond to the ordinary methods of treatment.

Age

0 to 10 years	0 cases
10 to 20 years	0 cases
20 to 30 years	20 per cent
30 to 40 years	0 cases
40 to 50 years	40 per cent
50 to 60 years	40 per cent

GENERAL OBSERVATIONS

Age.—The age at which the patients first presented themselves for examination ranged between 24 and 53 years, with decades divided as shown in the accompanying table.

Occupation and Race.—All these patients were married. Three were waiters, one was a tax assessor and the other a day laborer. Eighty per cent were negroes and twenty per cent were white. This increase in the colored race was probably a coincidence, as other writers have reported a higher percentage in the white race. No Jews were represented, and the United States was stated to be the birth place of all.

Duration.—At the time these patients first presented themselves for examination, the average duration of the cancer in three cases was seven and one-third months. In one case the disease had existed four months, and in the last case of the series only eight weeks.

Predisposing Cause.—As given by the physician in three cases, with a possible fourth, the predisposing cause was certainly phimosis. In the fourth case, a negro, aged 24, had been circumcised a month or so before the growth was first noticed, appearing as it did in the scar of circumcision. It is very probable that cancer existed prior to the operation and when the prepuce was removed some of the cancer cells remained in the living tissue. All these patients, with the exception of one, gave a previous history of phimosis or presented the condition at the time of examination. Some could retract the foreskin, others could not, and all but one paid little attention to cleanliness. One patient gave a history of papilloma on the glans penis which remained apparently benign for five years.

It certainly appears that phimosis bears a close relationship to carcinoma of the penis, for the literature reveals that it is extremely rare to encounter this lesion in the Jews or in any of the other races that practice circumcision.

Three of these patients had a positive blood Wassermann reaction and gave a clear clinical history of syphilis. What part syphilis or other lesions appearing from time to time on the glans penis and mucous surface of the prepuce and leaving behind them scar tissue play as a predisposing factor in producing cancer is still an open question.

The causes ascribed by the patients themselves vary. The one in whom cancer appeared in the scar of the circumcision attributed his condition to intercourse too soon after operation, which gave him considerable irritation; one patient said he was hit by a baseball on the shaft of the penis two years prior to the appearance of the cancer.

Symptoms.—All the patients complained of pain in the penis. This was probably due to the advanced stage of the disease and the associated cellulitis which so commonly accompanies these late cases. In one case in which the cellulitis was well advanced, the patient complained of some pain and swelling in both groins after a hard day's work. Another noticed a lump appearing on the dorsal surface of the shaft; this gradually became larger, softened and broke down. In one case, warts that had been on the glans penis for years broke down, forming an ulcer. In still another case a hard area could be felt, which was painful under a tight prepuce. This was accompanied by a foul discharge from the preputial sac.

In all these patients some change from the normal was noticed; each sought medical advice early from his family physician, but in only one instance was cancer recognized.

Adenopathy.—Most of the lymphatics of the penis drain into the inguinal nodes; first into the superficial group of inguinal nodes. This is the location of primary metastasis, which then extends to the deep inguinal nodes and from there under Poupart's ligament to the iliac nodes within the pelvis. When the urethra is involved extension may occur along the lymphatics, passing over the symphysis directly to the deep pelvic glands. There is a difference of opinion as to the time metastasis occurs. This can probably be accounted for by the variation in the reports of various observers, for as shown in my cases and others lymphatic involvement may occur almost immediately or not for months.

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* Read before the Philadelphia Urological Society, April 26, 1926.

Kaufmann[1] reported a series of forty-eight cases in which he concluded that metastasis had occurred in all but eight. Kuettner,[2] in a series of sixty cases, found metastasis in 32 per cent. Peters,[3] in a study of twenty-five cases which he observed for a period of thirteen years following operation, reported that three patients died from the operation, five died from causes other than cancer, three had recurrences one, two and eight years following operation, and fourteen were well after thirteen years. Of the last fourteen, he states that in about half the cases the lymphatic glands were not removed. He concludes that glandular involvement was not common.

Barringer,[4] in a series of thirty-six cases, states that in twelve the inguinal nodes were thought infectious, and in eleven carcinomatous; no enlargement was noted in two; the condition was questionable in three, and no record was obtained in three. He concludes that inguinal involvement by carcinoma is relatively late, and occurs in rather less than 40 per cent of the cases.

In 60 per cent of my cases there was no metastasis to the inguinal lymphatics at the time of operation, as shown by the pathologist's report. However, one patient in this group, with a lesion of only eight weeks' duration, developed cancer in a right superficial inguinal node two months after operation, although a most thorough dissection of all the fat containing the lymphatics over both the inguinal and the suprapubic regions had been carried out. This case helps to show that metastasis to the superficial inguinal lymphatics may occur very early in the disease, and that, no matter how careful the surgeon may be in the dissection of the adjacent glands, dissection may be incomplete. The remaining 40 per cent of this series have been free of metastasis to date.

Pathologic Examination.—The pathologist's report on the sections of tissue taken from these cases was squamous cell carcinoma, but for clinical purposes carcinoma of the penis is classified into two types; the papillary, or cauliflower, and the indurated ulcer. In this series 80 per cent presented the latter type, and 20 per cent the former.

The most frequent site of origin was the glans penis; the next, the under surface of the prepuce. The papillary type begins as a wart, which multiplies, spreading over a larger surface, and part of the tumor breaks down, forming areas of ulceration. This type may remain localized for some time; but when the tunic of the glans is once pierced and the loose cavernous tissue becomes involved, the progress of the growth is much more rapid.

The indurative ulcer type first appears as a pink pimple which undergoes ulceration, the area of ulceration increasing with extension of the infiltration, and like the papillary type finally penetrates the tunic of the glans. The latter type is more malignant and its extension more rapid. The two clinical types exist in the same lesion, but the growth is classified according to the one which predominates.

Treatment.—None of the patients in this series were seen early enough to permit the use of such measures as radium, roentgen-ray, fulguration or circumcision to effect a cure. In all, the tunic had been penetrated with infiltration of the loose cavernous tissue.

In two cases a partial amputation sufficed, but in the remaining three, owing to the advanced stage of the disease, it was necessary to perform a total extirpation. The operation was suggested by Horwitz.[5] In the three cases in which total excision of the penis was carried out, the urethra was transplanted in one to the anterior portion of the scrotum and in another to the posterior portion close to the perineum. The third patient at the time of operation had a large sinus leading to the membranous urethra, which remained from a previous operation for stricture. Regardless of where the urethra is transplanted, if there is secondary infection with contracture of the surrounding tissue following operation it may be necessary to dilate the orifice with sounds.

The subcutaneous fat and glands were dissected cleanly from the deep fascia. The spermatic cords were thoroughly cleaned. This dissection included the inguinal, suprapubic and femoral regions.

All our patients with the exception of two had a severe cellulitis at the time of operation, but, curious as it may seem, none of the inguinal glands were inflammatory. This infection made it necessary to be extremely careful in the postoperative treatment. The inguinal and scrotal regions were thoroughly drained and the dressings saturated with a solution of an organic mercury preparation, 1 : 5,000, and changed frequently. In this way operative mortality was prevented. A retention catheter was worn by all until the wound healed about the meatus.

Results.—Sixty per cent of the patients are living and well, without recurrences. In the first case, four years and six months has elapsed since the operation; in the second, two years, and in the third, one year and seven months. There were recurrences in 40 per cent. One patient is still living and showing some improvement following the application of radium to the carcinomatous area in the groin; the other patient died ten months after operation from metastasis to the spine.

REPORT OF CASES

Case 1.—H., a colored man, aged 45, a laborer, was referred to me, July 22, 1922, because of inability to retract the prepuce, with considerable pain in the penis. The condition was first noticed four months before. The patient gave a previous history of a sore on the penis at the age of 28 years. He had never been treated for syphilis. The Wassermann reaction was four plus.

He was well nourished. The inguinal glands were not palpable. The glans penis was covered by a tight, swollen, unretractable prepuce with ulcerations around its margin, and a foul discharge coming from the preputial sac. Palpation over the skin disclosed a hard, indurated area on the dorsum of the glans. After the preputial sac had been washed out for several days, a dorsal slit was made which uncovered a large indurated ulcer of the glans. A section of tissue was sent to Dr. Kolmer with a subsequent report of squamous cell carcinoma.

A partial amputation was performed, Aug. 7, the incision being made 2.5 cm. posterior to the infiltration in the corpora cavernosa. The lymphatic glands were removed from both the inguinal and the suprapubic regions. The glands removed did not show a malignant change. Postoperative roentgen-ray treatment was not given. The interval since operation has been four years and six months. There has not been recurrence.

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[1] Kaufmann: Verletzungen und Krankheiten Harnohre und Penis, 1886.

[2] Kuettner: Beitr. z. klin. Chir. **26**, number 1, 1900.

[3] Peters, W.: Prognosis in Cancer of the Penis, Ztschr. f. Urol. **15**: 410, 1921.

[4] Barringer, B. S., and Dean, A. L.: J. Urol. **11**: 497 (May) 1924.

[5] Horwitz, in Guiteras: Urology, New York, D. Appleton and Company, **2**, p. 532.

Case 2.—C., a colored man, aged 24, employed as a waiter, first reported to the clinic, Jan. 2, 1925, complaining chiefly of pain in the penis. He had noticed some change from the normal eight months before. Two months following circumcision, a growth was noticed in the scar. The patient at once consulted his family physician, who made a diagnosis of syphilis and gave him antisyphilitic treatment for several months without improvement. The blood Wassermann reaction had always been negative.

The patient was fairly well nourished. The inguinal glands on both sides were palpable and hard. On the penis almost circling the corona and sulcus was a papillary type of growth with marked infiltration of both cavernous bodies for a considerable distance toward the root of the penis. This patient had no difficulty in voiding and the associated cellulitis was very mild.

A partial amputation was done, January 20. The inguinal glands removed at the operation showed the presence of carcinoma. This patient was given intensive postoperative roentgen-ray treatment. Death occurred ten months after operation from metastasis to the spine.

Case 3.—E., a colored man, aged 53, employed as a waiter, first reported to the clinic, Nov. 26, 1924, with the glans penis practically destroyed. The duration of the lesion had been six months. He had had warts on the glans penis for five years. A diagnosis of squamous cell carcinoma was made, but the patient refused operation. However, he returned again at the end of three months and begged for relief. At this time his chief complaint was very severe pain in the remaining portion of the shaft. The blood Wassermann reaction was negative.

The patient was fairly well nourished. The inguinal glands were not palpable. The shaft of the penis, with the exception of one-half inch protruding from the scrotum, had been destroyed. There was a marked degree of cellulitis extending down and involving part of the scrotal tissue. The cavernous bodies showed infiltration well into the scrotal portion.

A total extirpation was done, February 27. It was not necessary to transplant the urethra, as the patient had a large perineal sinus which followed a previous external urethrotomy for stricture. The urethra was ligated and cauterized at the anterior layer of the triangular ligament. The adjacent lymphatic glands removed at the operation did not show malignant change. Following operation there was considerable secondary infection in the right inguinal and scrotal regions, which cleared up after two weeks. The patient received intensive postoperative roentgen-ray treatment. The interval since the operation has been two years. There is no evidence of recurrence. The patient is in excellent health and weighs more than 200 pounds (91 Kg.).

Case 4.—W., a colored man, aged 41, a laborer, first reported to the clinic, June 28, 1925, his chief complaint being intense pain and swelling in the penis for the past five months. His blood Wassermann reaction was strongly positive.

He was poorly nourished. The inguinal glands on both sides were palpable and firm but not tender. The shaft of the penis was markedly swollen and edematous and very tender. A long, tight prepuce covered the glans penis, which could not be retracted, and coming from the under surface was a foul discharge. The cavernous bodies were infiltrated well into the scrotal portion of the penis. The report from Dr. Kolmer was squamous cell carcinoma.

While the pathologist's report was being waited for, multiple incisions were made in the skin of the shaft, with the escape of a large amount of creamy pus. Smears showed a gram-positive bacillus and diplococcus. Before operation, it was decided to try the effect of mercurochrome-220 soluble intravenously on this infection. So, on July 14, 17.4 cc. of a 1 per cent solution of mercurochrome-220 soluble, 2 mg. per kilogram of body weight, was given. Following this there was a marked chill followed by an abrupt rise in temperature, which lasted several hours. After this reaction the patient was greatly relieved, and had his first night's sleep in weeks. This treatment with mercurochrome was repeated again, July 17, with further improvement in the local infection, although following the second administration the patient developed symptoms of mercury poisoning. A total extirpation of the penis was done, July 24. The inguinal glands removed at the operation showed a malignant change. The urethra was transplanted in the anterior portion of the scrotum, but as the result of infection of the scrotal tissue following operation there was considerable secondary contracture of the tissues about the urethral orifice, which later necessitated dilation. The interval since the operation has been one year and seven months. To date, there has been no recurrence. This patient received intensive postoperative roentgen-ray treatment.

Case 5.—S., a white man, aged 51, a tax assessor, was referred to me, Jan. 25, 1926, with a tentative diagnosis of cancer of the penis. His chief complaint was pain in the penis. The duration of the ulcer was eight weeks. Two years before, the patient had been hit on the dorsum of the penis with a baseball. This injury produced considerable pain and swelling, which lasted a week or more. He had always had an elongated, tight prepuce. The blood Wassermann reaction was strongly positive, and he gave no history of having been treated for syphilis. According to the patient's history, he first noticed a lump on the dorsum of the shaft just back of the corona; this gradually softened in the center, resulting in an ulcerated area. At first it was a question whether the condition was gumma or cancer, but Dr. Kolmer's report on the section of tissue examined by him was squamous cell carcinoma. The patient at first refused operation, and it was several weeks before he finally consented.

The patient was well nourished. The inguinal glands were not palpable. The penis presented a large indurated ulcer on the dorsum of the shaft, involving both the glans and the cavernous bodies, with infiltration extending well back toward the root. The prepuce, which entirely covered the glans, was tight and edematous.

A total extirpation of the penis was done, February 26. A thorough dissection of the lymph glands was made over the inguinal, suprapubic and femoral regions. The urethra was transplanted in the posterior portion of the scrotum close to the perineum. The pathologist's report on the glands removed at operation was negative for cancer. The patient refused immediate postoperative roentgen-ray treatment, as he was called out of town. Two months following operation, he reported to my office with a swelling in the right inguinal region which was superficial. Following this examination, when immediate roentgen-ray treatment was advised, he left town for several months again, and when he finally returned the affected gland had broken down with considerable area of ulceration in the right groin. A section of tissue taken showed the presence of carcinoma. Roentgen-ray treatment given at this time was without apparent result. The patient was then referred to Dr. Pfahler of Philadelphia, who is giving him large doses of radium. The result, of course, is very doubtful.

SUMMARY

1. All the patients in this series were seen too late to permit the use of such measures as radium, roentgen ray or fulguration to effect a cure.

2. In all the tunic of the glans had been penetrated, and it was necessary to do a partial amputation in two and a total extirpation in three.

3. The superficial inguinal glands were the seat of primary metastasis in all the cases showing glandular involvement.

4. In carcinoma of the penis, metastasis to the inguinal glands may occur very early, as shown by case 5 (about eight weeks), or quite late, as shown by case 3 in which there was no involvement at all in nine months, but during which time there was marked destruction of the penis.

5. The irritation of the glans penis and mucous surface of the prepuce resulting from the collection of

smegma under a tight foreskin is certainly the most important predisposing factor in the production of cancer of the penis.

6. There was no operative mortality. In 60 per cent of the cases there has been no recurrence. The interval since operation in case 1 was four years and six months, in case 3 two years, and case 4 one year and seven months. There were recurrences in 40 per cent; one of the patients died ten months after operation from metastasis to the spine.

7. The subcutaneous fat and glands were dissected cleanly from the deep fascia in all the cases. The dissection included the inguinal, suprapubic and femoral regions. Immediate postoperative roentgen-ray treatment was given in cases 3 and 4. No roentgen-ray treatment was given in case 1, and very late postoperative treatment was given in case 5.

121 South Illinois Avenue.

HYPOPITUITARISM

A SUMMARY OF OBSERVATIONS IN TWENTY-SEVEN CASES FOLLOWED SEVEN YEARS *

JOSEPH EIDELSBERG, M.D.
NEW YORK

Since 1919 there have been under our observation twenty-seven cases of hypopituitarism. The patients have reported consistently, so that their condition and progress have been most carefully followed. At the outset we laid down the following requisites before a case was included in this group:

1. Stunting of growth.
2. Decrease in sexual characteristics; e. g., infantile penis, infantile uterus, lack of characteristic hair lines and distribution, amenorrhea, and absence of sex instincts.
3. Increased sugar tolerance, varying from a slight deviation from the normal to a plateau curve, and clinically occasionally expressed as a desire for "sweets."
4. Obesity—variable, but most typically of the girdle type.
5. Decrease in basal metabolic rate, though this was not considered essential.
6. Other manifestations, as tapering fingers, low blood pressure, drowsiness, diabetes insipidus syndrome, headaches, and roenten-ray changes in the sella turcica.

Needless to say, few patients presented the entire deficiency syndrome, with all the classic signs, but no case was included which did not present sufficient evidence to classify it here.

When the diagnosis was made organotherapy was instituted, and the dose of the whole gland was from 15 to 75 grains (1 to 5 Gm.) daily. As previously pointed out, we have been able to study these twenty-seven cases for a period of about seven years, and some pertinent factors have been brought to light.

HEIGHT

Fourteen of the twenty-seven patients were distinctly below the average normal height for their age and sex, the greatest difference being 23 inches and the smallest 1 inch. Those less than 1 inch below or above the average were considered normal, and three were above the average, from 2 to 4 inches. The average decrease below the normal was 11 inches. Today of these fourteen patients seven have changed in height, while seven have remained practically the same, a change of less than 1 inch. Of the seven who changed in height, no one had changed in height during the four years prior to beginning treatment. The greatest change in height was in patients between the ages of 16 and 20, while two patients aged 23 and 24 years increased 2 and 3 inches, respectively. The average growth was 4½ inches.

AMENORRHEA

Fifteen of the twenty-seven patients were females, and eight had never menstruated. At the end of seven years three had begun to menstruate regularly, while two others had spotted off and on. Of the seven other females, four gave a history of irregularity and scantiness, and two of these are practically normal at the present date.

HAIR

Twelve were male patients, and six of these showed no hair over the pubes, in the axillae or on the face. Today eight of these males are normal as far as hair characteristics are concerned. Few of the females showed departures from the normal, and the slight discrepancies disappeared during the period of treatment.

OBESITY

The greatest improvements and our greatest disappointments occurred with regard to obesity. Eighteen patients were distinctly obese, their weights varying from 160 to 347 pounds. The most obese, a female, lost 45 pounds, while of the others, one lost 65 pounds, the average loss being 32 pounds. Three gained weight, the greatest gain being 14 pounds.

HEADACHES

In twelve of the twenty-seven patients, headache was an important symptom. Eight of these were females. In five (three of these were females) we readily discovered a marked improvement, and in two a complete disappearance of the symptom: these were females, with the headaches cyclic, and at the menstrual period. In the others there were some improvements and relief.

BLOOD PRESSURE

Of the twenty-seven patients, eleven had blood pressures varying between 86 and 100 systolic. Today all blood pressures are above 100 systolic. In three cases we found a rise to 160, 166 and 170, but on cessation of medication they fell below 140.

CONCLUSIONS

In drawing conclusions, we must remember that twelve of these patients were between the ages of 16 and 23 years of age when they came under observation, the oldest 44 years, and that some natural changes dependent on advance in years might have occurred; but as so little, if any, change had occurred in the four years prior to the introduction of the organotherapy, we are forced to feel fairly certain that a good part of the improvement was due to the treatment.

First, the best results from all angles, growth, weight, etc., were obtained in the younger patients, those under 20 years of age.

Secondly, the best results were obtained with the larger doses, from 50 to 75 grains (3.25 to 5 Gm.) daily.

Thirdly, persistency and patience in the treatment is paramount.

235 West Seventy-Sixth Street.

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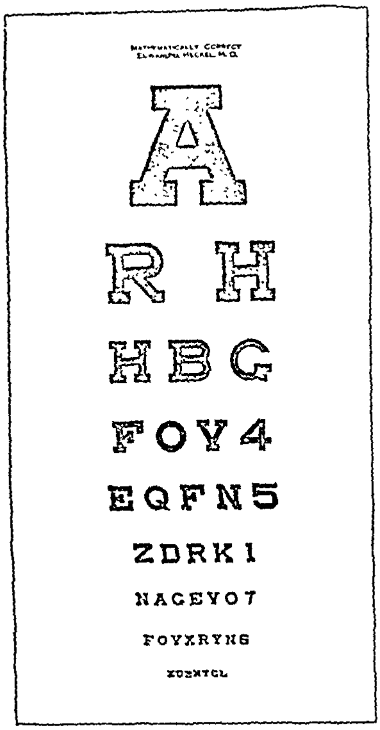
* From the Endocrine Clinic, Department of Medicine, New York Post-Graduate Medical School and Hospital.

Clinical Notes, Suggestions and New Instruments

CHARTS FOR TESTING EYES

Edward B. Heckel, M.D., Pittsburgh

The difficulty of obtaining on the open market accurate test charts, to record distant vision, prompted me many years ago to have these made by hand. In this manner only could one be sure that they would be mathematically correct.



One of the series of charts for testing eyes. The full size card measures about 11 by 21 inches.

They were also made in sufficient variety so as to eliminate memory in making the tests.

All of these letters, at their respective distances (200, 100, 70, 50, 40, 30, 20, 15 and 10 feet) subtend an angle of five minutes, while the component parts of the letters subtend an angle of one minute.

The B. K. Elliott Company now offers these in lithographed form.

The original letters were all made within squares divided into twenty-five squares, respectively, and the letters were drawn in such a way that the component parts of the letters include the small squares.

The sizes of the squares are as follows:

200 foot letter is 3.4906 inches square
100 foot letter is 1.7453 inches square
70 foot letter is 1.2217 inches square
50 foot letter is 0.8726 inch square
40 foot letter is 0.6981 inch square
30 foot letter is 0.5236 inch square
20 foot letter is 0.3490 inch square
15 foot letter is 0.2618 inch square
10 foot letter is 0.1745 inch square

Jenkins Arcade.

A CASE OF VINCENT'S ANGINA

C. E. Ware, M.D., Atlanta, Ga.

L. P. M., a white man, aged 28, was referred to me, June 22, 1925, by a dentist, complaining with a sore throat for two or three days.

The patient had had the usual diseases of childhood. Tonsillectomy was done two years before. He had sore throat one year before, which was diagnosed diphtheria though a culture was negative; from 20,000 to 30,000 units of diphtheria antitoxin and some local applications to the throat were given. The condition cleared up in about a week. There was no history of syphilis.

The pharynx was inflamed and a small ulcer was seen on a piece of tonsil in the right lower fossa. There was some discomfort and swelling.

A clinical diagnosis of Vincent's angina was made and verified by laboratory observation of Vincent's bacillus and spirillum.

The patient was seen daily in the office and various applications and gargles were used, but in spite of treatment the ulcer increased in size. He failed to report at the office for two or three days, and when I saw him the ulcer had become much larger and there was marked glandular swelling on the right side of the neck and much difficulty in swallowing. The temperature was 102.

Neoarsphenamine, 0.9 Gm., was given intravenously and the patient was transferred to the hospital. On admittance, the temperature was 103, pulse 88, and respiration 24. There was a slight reaction following the neoarsphenamine.

A complete blood count did not show anything of importance. Urinalysis revealed a trace of albumin but no casts.

Treatment of the throat was continued, arsphenamine paste being used, with solution of chromic acid and 50 per cent vinegar as a gargle. There was no response to this treatment and the patient grew worse.

Dr. Lokey saw the patient on the third day in the hospital. We ordered a Wassermann test made and 0.9 Gm. of neoarsphenamine was given intravenously. The Wassermann report was four plus. Then patient was put on mixed treatment. The temperature ranged from 100 to 103, the patient gradually growing worse. For irrigation every hour, equal parts of alkaline aromatic solution, N. F., compound solution of sodium borate and water were used. There was a very fetid odor to the breath.

July 13, 18 cc. of 0.5 per cent gentian violet solution was given intravenously. Also a 1 per cent gentian violet solution was used to spray the throat. The patient began to expectorate a moderate amount of dark, bloody phlegm. The temperature went as low as 99; the patient became delirious and the pulse rate increased. The mixed treatment was omitted for a few days on account of the urine showing a large amount of albumin, with hyaline and granular casts.

July 15, 15 cc. of 0.5 per cent gentian violet solution was given. One hour later the patient had a severe hemorrhage from the throat, bleeding at least a liter. Morphine and atropine were ordered and the throat was packed with a retention sponge.

When I saw the patient he was very weak; the pulse was 132. For fear of another hemorrhage, an external carotid ligation under local anesthesia was done by Dr. Turner. The patient stood the operation well. On examination of the throat following the hemorrhage there was a great deal of destruction of tissue. I could easily place a good sized Yates apple in the cavity on the right side of the throat, and the velum of the palate was destroyed on the right side as far as the uvula. After the hemorrhage, all odor disappeared. Fluids by mouth were pushed and proctoclysis was given. At midnight the temperature was 98.3, pulse 120, respiration 24. The next day the temperature was from 101 to 103 by axilla. Delirium continued and the patient was very restless.

Three days after the hemorrhage the patient had a sinking spell and it was necessary to stimulate with strychnine and whisky. July 17, 0.9 Gm. of neoarsphenamine was given and mixed treatment started again. There was no reaction. Two days later the temperature went to normal and remained so. The mental symptoms cleared up, improvement continued daily, and the patient was able to leave the hospital, August 1.

A Wassermann test was made one week later with a report of one plus. Mixed treatment was continued. The only discomfort the patient had was a regurgitation of fluid through the nose when swallowing, and spasm of the muscles of the jaws, being unable at times to open the mouth. When seen one and one-half months later, he had gained much weight and was not annoyed, when swallowing, by fluids coming through the nose. Examination of the throat revealed a band of adhesion from the soft palate on the right side to the posterior pharyngeal wall.

The patient was last seen, Christmas, 1925, and was in good health and stated that he had one attack of sore throat during the fall, but only for a few days.

My reasons for reporting this case are the virulence of the infection and the slight response to treatment; also the profuse hemorrhage, external carotid ligation and recovery.

It is my opinion that the patient had Vincent's angina one year before the present illness, but the condition was not diagnosed. There is a question whether, if this was a mixed infection, two months' treatment would have given a negative Wassermann reaction.

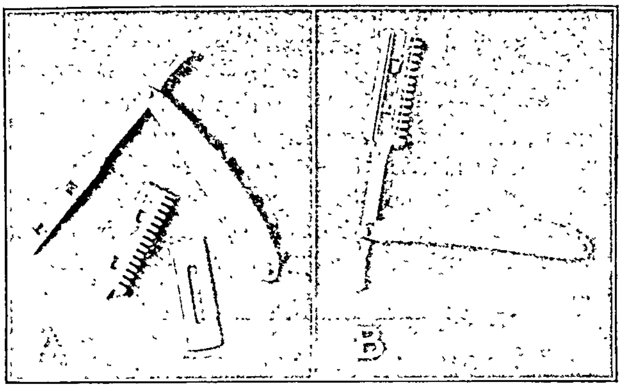
A NEW THIERSCH GRAFT RAZOR

A. G. BETTMAN, M.D., PORTLAND, ORE.

Plastic surgery is exacting in all its requirements; always so as to technic, often so as to instruments. Skin grafting is exacting in both regards.

The greatest difficulty one has in cutting Thiersch grafts is in procuring a satisfactory cutting instrument. I have devised a knife that is simple and inexpensive and that serves the purpose well, giving a sharp edge at all times. It can be made in a few minutes, if necessary, from materials procurable anywhere.

From the guard of a Durham Duplex safety razor, I removed the teeth from the left side at the line where the teeth join the body of the guard. This straight edge was then beveled, and the outer end was also beveled to facilitate the removal of the grafts from the knife. This completes the instrument. A guard which has a wider surface than the one ordinarily supplied may be provided.



A, the three parts of the Durham Duplex razor showing the guard (center) after having the left teeth removed and the two edges beveled. *B*, the new Thiersch knife, complete and ready for use.

With this razor as described, a new, unused, sharp blade is always at hand. When one cutting edge loses its keenness the opposite edge may be used, and new blades are used as necessary. The back cutting edge is not injured while not in use. Only a moment is required to change blades. There is no honing to be done. The blades are sharp, are inexpensive, and being 2¼ inches wide, cut a width of skin suitable for any purpose.

724 Medical Arts Building.

Special Article

ETHYLENE—II

REPORT BY AMERICAN MEDICAL ASSOCIATION CHEMICAL LABORATORY

Recently the A. M. A. Chemical Laboratory reported on the examination of several specimens of Ethylene for Anesthesia, which had been submitted to the Council on Pharmacy and Chemistry. The results of the examinations, together with the recommendation for the limit of carbon monoxide, were published in THE JOURNAL.[1] Since that time another brand ("Ethylene for Anesthesia," Certified Laboratory Products Company) has been submitted to the Council on Pharmacy and Chemistry. The contents of a tank of the latter product, obtained on the open market and another one obtained from the firm, were subjected to chemical examination.[2] In addition, the laboratory received a specimen (sent in by the Wayne Pharmacal Company) of Ethylene manufactured by the Kansas City Oxygen Gas Company, which, it was stated, had been opened at a hospital at Fort Wayne, Ind., and that the physicians had noticed a blue gas being emitted when the product was used. The physicians called the observation to the attention of the Wayne Pharmacal Company; the firm, in turn, referred the matter to the A. M. A. chemists. In view of the seriousness of possible contamination of ethylene for anesthesia, the laboratory felt it to be its duty to the profession at large to investigate the suspected product. The results of the examination of both Ethylene for Anesthesia C. L. P. and the suspected specimen of the Kansas City Oxygen Gas Company are given in the accompanying table.

Determinations of "Ethylene for Anesthesia"

Brand	Where Obtained	Methyl	Barium Hydroxide	Ammonium Silver Nitrate	Per Cent Ethylene	Per Cent Oxygen	Per Cent Carbon Monoxide	Pyrotannic Acid Test †
Certified Laboratory Products Co.	Manufacturer	Neg.	Neg.	Neg.	98.87	0.23	0.005*	Neg.
Certified Laboratory Products Co.	Open market	Neg.	Neg.	Neg.	98.99	0.17	0.00	Neg.
Kansas City Oxygen Gas Company ‡	Wayne Pharmacal Company	Neg.	Neg.	Neg.	98.85	0.24	0.00	Neg.

* This is less than the experimental error of the method.

† The negative reports on the pyrotannic acid tests are to be interpreted as less than 0.01 per cent carbon monoxide.

‡ This specimen had been opened previous to our examination at St. Joseph's Hospital, Fort Wayne, Ind.

All these specimens were found to meet the requirements of New and Nonofficial Remedies.

CONCLUSIONS

1. Specimens of Baxter's Ethylene for Anesthesia,[3] in addition to the brands now described in New and Nonofficial Remedies (namely, those of the Ohio Chemical and Manufacturing Company and the Kansas City Oxygen Gas Company, previously reported on by this laboratory), have been examined. All the specimens examined have been found to be satisfactory and to conform to the standards accepted for inclusion in New and Nonofficial Remedies.

2. A specimen of suspected Ethylene for Anesthesia (Kansas City Oxygen Gas Company) was also examined, and was found to be of satisfactory purity. No so-called blue gas was noticed.

3. The laboratory again repeats its previous recommendations, that physicians use only the brands of Ethylene described in New and Nonofficial Remedies. Furthermore, that manufacturers test their products according to the standards in New and Nonofficial Remedies (including the hemoglobin test which has been incorporated in the standards), and that such statement of examination accompany each tank of ethylene.

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[1] Chemical Examination of Ethylene for Anesthesia, Report by A. M. A. Chemical Laboratory, J. A. M. A. 88: 322 (Jan. 29) 1927.

[2] As in the previous work, the Laboratory obtained the collaboration of W. R. Smith, head of the Department of Chemistry, Lewis Institute.

[3] Announcement of acceptance of Ethylene Certified Laboratory Products, Glendale, Calif., was published in THE JOURNAL, June 18, p. 1967.

Related Physical Education.—All physical education courses should be related to the organic health, the neuromuscular education and the emotional and recreative life of the individual.—Physical Education Preparation of the Classroom Teacher, Editorial, *American Physical Education Review*, November, 1919, p. 450.

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AMERICAN MEDICAL ASSOCIATION

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SATURDAY, AUGUST 6, 1927

ASTHMA AND ALLERGY

The association of asthma with allergy or the undue sensitization of the body to certain substances inspired the hope that marked improvement in the management of the distressing disorder would result from the newer knowledge of allergic phenomena. Some of the early successes were so striking that they fanned the current interest of medical circles into intense enthusiasm. Then came the occasional disappointments and apparent contradictions so commonly encountered whenever some diagnostic or therapeutic novelty is heralded without adequate discussion and with unbounded hopes. The seasoned observer on the side lines has learned that this is not always an indication of failure in the procedures under consideration; it is more often due to insufficient realization of the limitations and modifying conditions attached to most biologic manifestations.

There is, accordingly, great timeliness in the comment of Peshkin[1] of Mount Sinai Hospital, New York, that extensive experience in treating allergic diseases forces the realization that protein sensitization alone does not entirely explain the varied manifestations associated with allergy. Undoubtedly many children with asthma who are skin sensitive to various proteins do not show any etiologic connection between protein sensitization and the malady.[2] Presumably this means that in those persons in whom protein sensitizations have been found to be of etiologic importance, the sensitizing substances were only exciting factors and not the fundamental causes of symptoms. Various students of the subject have formulated the general view that the basis of allergy under the conditions here discussed is a disturbed balance of some sort, probably manifesting itself through the nervous system. As Peshkin[1] prefers to express this, when the body is in a state of "physicochemical equilibrium"—a balanced allergic state—the allergic patient enjoys freedom from symptoms despite exposure to an etiologic protein. If any factor overthrows the governing mechanism, symptoms will appear.

In harmony with this conception is the observed association of a variety of diseases in children with the onset of asthma. Physical overexertion, indiscretions in diet, seasonal changes and other nonspecific factors may contribute to the disturbance of the protective mechanism that maintains the "physicochemical balance." If exposure to the sensitizing protein is insufficient to disturb this equilibrium, Peshkin insists that an intercurrent infection often suffices to produce complete unbalance. From a practical standpoint, he adds, if a child contracts such diseases as pertussis, measles, scarlet fever or acute pneumonia, or undergoes an operation for the removal of tonsils and adenoids, and there is an allergic family history, especially with an antecedent eczema, angioneurotic edema or "recurrent rhinitis and bronchitis," the elimination of the known sensitizing substances from the environment and diet may prevent the onset of asthma.

REGULATION OF THE BILE FLOW

As in other domains of science, there are problems in physiology that are subjected to frequent shifts in their solution. The long continued debate of the myogenic versus the neurogenic origin of the heart beat affords a familiar example of conclusions changing with pendulum-like swing as each new item of evidence is discovered. A somewhat similar uncertainty seems to attend the explanation of the regulation of the flow of bile and the rôle of the gallbladder. Thus in contradiction to the earlier theory that the resistance to a continuous flow of bile into the intestine is afforded by the activity of a distinct sphincter at the mouth of the common bile duct has arisen the view that the stasis referred to is really due to the tonicity of the adjacent duodenum.

Closely related to the function just discussed is the problem of the filling and emptying of the gallbladder. Whether it is a sphincter action or duodenal tonus that prevents the onward progress of the bile, in any event the secretory pressure of the liver is thereby enabled to bring about distention of the gallbladder. Pressure is thus exerted on the contents. What is the determining factor in securing the emptying of the gallbladder at intervals? Is it the elasticity of the organ or the active forceful contraction of its musculature when bile is needed in the intestine? Both agencies have been credited with the accomplishment. Contractile intervention implies an effective musculature with which the gallbladder is admittedly only poorly supplied at best.

As the result of investigations at the University of Chicago, Burget[1] champions the conclusion, contrary to what has been reported heretofore in THE JOURNAL, that the gallbladder is incapable of contractions that may be construed as being of major importance in the flow of bile. Thus Burget joins those who believe that the organ has only a passive rôle in bile flow. Because of its elasticity, the gallbladder wall when under tension aids the flow of bile in a passive manner. The theory of the alleged reciprocal action between the gallbladder and the sphincter of Oddi is discounted.

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[1] Peshkin, M. M.: Asthma in Children: III. Am. J. Dis. Child. **33**: 880 (June) 1927.

[2] Peshkin, M. M.: Asthma in Children: I. Etiology, Am. J. Dis. Child. **31**: 763 (June) 1926.

[1] Burget, G. E.: The Regulation of the Flow of Bile: III. The Rôle of the Gallbladder, Am. J. Physiol. **81**: 422 (July) 1927.

It has lately been clearly established that a discharge of bile from the gallbladder is a characteristic response to a meal of fat. This has been ascribed by its earlier investigators to a forceful contraction of the bladder musculature. Burget, however, explains the phenomenon on the basis of a temporarily lowered tonus of the intestine on the introduction of fat. Under such conditions the resistance to outflow is sufficiently reduced to permit a movement of the bile under the accumulated pressure without special muscular intervention. In other words, this study tends to confirm the conclusion that the process of bile flow into the bowel is regulated by tonicity and peristalsis of the duodenum, with elasticity of the gallbladder and intra-abdominal pressure as auxiliary factors.

THE SURVIVAL OF THE FITTEST

In the struggle for existence that life represents, the survival of the fittest appeals to many thinkers as the outstanding ideal. They argue that it makes for strength and progress in the race if the unfit—the weaklings and the degenerates—are eliminated through their inability to meet the strenuous conditions of rigorous living. Consequently not a few persons challenge many features of the modern program for public health and preventive medicine as well as allied social schemes for human comfort on the ground that these tend to counteract and discount the advantages that selection through inherent fitness is alleged to represent. As a recent writer has expressed it, by protecting us from our enemies, the bacteria and the viruses; by removing the sources of disease; by showing us how to avoid unfavorable conditions and to find favorable ones; in short, by bringing us and our environment into harmony, the "civilizers" are promoting the survival of the unfit; they are progressively filling the human race with the weak and the degenerate, who must hand on their weakness and degeneracy to their descendants.

Such arguments cannot be lightly dismissed. The modern investigations in genetics have, indeed, shown that it is quite possible to produce a population composed of the congenitally defective—"the halt, the blind, the weak, the variously deformed and degenerate." The biologist of today refers these possibilities back to the transmission of defective "genes," the hereditary substance carriers that determine development. In a stimulating address before the National Tuberculosis Association at Indianapolis in May, Professor Jennings[1] of the Johns Hopkins University sustained the thesis that defects in genes become as open to remedy as defects in nutrition. After all, the underlying problem is largely one of chemistry. The genes are chemical compounds. The consequences of a defective thyroid secretion are remedied by introducing synthetically produced thyroxin with the food. In principle it is clear, says Jennings, that defects in the store of chemicals given us by heredity may be supplied by other means; that undesirable things in the store of genes may be cancelled or corrected; that reactions among them which take an undesirable turn may be altered, set right. All these things, he adds, are seen to be mere matters of technic: one needs but to know how.

Of course, the correction of defects attributable to hereditary weaknesses does not necessarily abolish the latter. However thoroughly the natural effects of his "poor constitution" may be offset and his own life made more satisfactory alike to himself and to society, the defective individual continues to be a potential producer of the unfit. Shall he therefore be prevented from surviving? Not infrequently physical shortcomings go hand in hand with conspicuous mental capacities. The artist is by no means always an athlete. Shall the progress of the race be safeguarded by preventing the application of scientific ingenuity whereby the hereditarily weak may secure the enjoyment of a full, useful, happy, long life? To such queries Jennings has offered a cogent reply. The mere survival of a genetically defective individual does nothing to increase the degeneracy of later generations—provided he does not propagate. Not survival alone, but also propagation, Jennings rightly adds, is required for the perpetuation of defective genes. Without propagation, survival is harmless, so far as race deterioration is concerned.

The implications of these statements are fairly obvious. In their relation to the modern activities in the field of public health and social betterment they place burdens of responsibility where they have been only lightly considered heretofore. The public health worker, Jennings remarks, must become genetically minded, eugenically minded. If by his activities he promotes, in the congenitally defective, propagation as well as survival, his work does indeed tend toward a measure of racial degeneration. The control of the instincts that lead to propagation is a formidable problem. The subject is one that cannot be thrust aside merely because it calls for considerable delicacy in presentation and, as yet, undevised tact in its furtherance. In any event the control of our environments will not be summarily abandoned. We still know too little about the details of heredity to assume that protective and defensive actions or selective control of the environment are inevitably threatening to human welfare in the long run. We may properly watch for defective genes and stop the propagation of their bearers; but, as Jennings concludes, the proposal to abandon control of the environment—the cessation of the process of adjusting ourselves to the conditions—is not a serious contribution to the practice of life.

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[1] Jennings, H. S.: Public Health Progress and Race Progress. Are They Incompatible? Science 66: 45 (July 15) 1927.

SOME EFFECTS OF MODERATE PHYSICAL TRAINING

The proper place of exercise and physical training in the promotion of human well being cannot be precisely evaluated until the fundamental facts in relation to such muscular functions are ascertained and correctly interpreted. Clinical medicine has a special interest in this theme because it frequently makes use of various schemes of exercise as parts of its physical therapy. Rational prescription of any form of exercise presupposes an adequate knowledge of how it will affect the bodily functions and the important organs. Unfortunately, little more than the beginnings have been made in the investigation of the problems here involved. The work of the muscles proceeds at the expense of a metabolism of matter. Training seems to be a factor in determining the energy required for the performance of a given task. Thus a person unaccustomed to a certain type of muscular exertion, such as mountain climbing, is said to use proportionately more energy than one who has been trained for such work.

It is well established that the pulse rate is, broadly speaking, an index of the metabolism. Consequently the rate of the heart beat should give an indication of changes in the basal metabolism so far as this is affected by either training or the disuse of the muscles. A physically trained man is supposed to perform a given amount of work with a smaller consumption of oxygen than the untrained and to make a smaller demand on his heart, with the result that it beats less frequently.

Most comparisons of this sort have been made between trained and untrained persons of about the same size. In the studies of Schneider [1] and his associates at Wesleyan University in Connecticut the effects of physical training have been observed during pretraining, training and posttraining periods in the same persons. They do not lend support to the idea that the taking of daily exercise according to some regular prescription will increase the basal exchange of the body. If anything, the basal gaseous exchange may be slightly reduced during a period of training. This seems to happen despite any possible growth in the size, and hence the oxygen requirements, of the muscles. Training slightly retarded the pulse rate of the basal condition in most persons examined. One may therefore assume that the basic processes of the body become more efficient during a period of physical training. There was no constant effect on the arterial blood pressure. The conclusions here summarized refer to rational forms of vigorous physical exercise rather than to excessive athletic undertakings of the most strenuous sort. The latter deserve far more intensive investigation than has yet been accorded to them. After all, the limits of physiologically profitable activity, rather than competitive overdoing, are problems for the scientists quite as well as for the professional athletic trainers.

Current Comment

THE ACCURACY OF ERYTHROCYTE COUNTS

Among the errors frequently committed in the use of so-called scientific data is the failure to take into account the limitations of the technic employed and the variations that may be normally inherent in the processes under observation. In the estimation of body temperature, for example, the physician has become aware of diurnal variations, amounting to as much as one degree Fahrenheit at times, that need not be attributed to incipient febrile processes. Vigorous exercise likewise brings about a small though unmistakable rise in temperature that is promptly dispelled again during health. The interpretation of the data on basal metabolism calls for an appreciation of the ranges within which deviations from the "average normal" may occur without exciting suspicion of any pathologic upset in the metabolic processes of the body. Thus, no one would indict a figure within 10 per cent of the arithmetical average for a given age, size and sex. In deciding what shall be regarded as the proper body weight and stature of a person, the shortcomings of fixed figures for specific conditions have of late become accentuated through the growing recognition that physique varies with racial and other hereditary characters. Among the frequently made measurements in medicine are the estimations of the number of red blood cells per cubic millimeter of the circulating medium. The reports of such observations sometimes indicate an utterly unwarranted devotion to numerical expressions. Aside from the fact that the methods of counting in current use do not permit an accuracy within the tens of thousands limit, there are also diurnal variations, apparently, that must be taken into consideration. This Leake, Kohl and Stebbins [1] of the University of Wisconsin have found in observations at hourly intervals on a number of healthy men and women from 18 to 30 years of age. The maximum diurnal variation in the specific gravity of the blood was 0.0033 for the men and 0.0027 for the women, with general averages of 1.0565 and 1.0533, respectively, for them. In the same persons the average maximum diurnal variation in the red blood cell count was 345,000 for the men and 310,000 for the women. These effects were not due to any strenuous or abnormal tasks on the days of observation. There was no direct correlation between the changes in specific gravity and the erythrocyte count of the blood, except a slight simultaneous fall after meals, probably due to blood dilution. Such information should make a clinician somewhat indifferent to variations in erythrocyte counts when not more than a quarter of a million cells per cubic millimeter of blood are involved.

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[1] Schneider, E. C.; Clarke, R. W., and Ring, G. C.: The Influence of Physical Training on the Basal Respiratory Exchange, Pulse Rate and Arterial Blood Pressure, Am. J. Physiol. **81**: 255 (July) 1927.

[1] Leake, C. D.; Kohl, M., and Stebbins, G.: Diurnal Variations in the Blood Specific Gravity and Erythrocyte Count in Healthy Human Adults, Am. J. Physiol. **81**: 493 (July) 1927.

MEDICAL NEWS IN THE SCOTSMAN

Dr. George H. Simmons, attending the meeting of the British Medical Association as a representative of the American Medical Association, sends The Journal a copy of *The Scotsman*. The front page of this newspaper is classified advertisements: situations wanted, specific articles for sale, mattresses, tea, linoleum, summer underwear and Scotch whisky; on page two are reviews of books; pages three, four and five, markets; page six, the courts; page eight, a summary of the news and editorials; page ten, educational, church and news of the services; page eleven, parliament; page twelve, partly pictures of current events; the next page, sports; the last page, advertisements. There are no large headlines and no featuring of crime, sports or divorce. Several columns are devoted to the meeting of the British Medical Association, which opened in Edinburgh, July 20. Scientific papers are abstracted in a manner that should please the author and the reader. There is much about the centenary of the birth of Lord Lister in M'Ewan Hall of the University of Edinburgh. Physicians from many parts of the world were there. The chancellor of the university presided; short speeches were made by Professor Tuffier of Paris, Prof. Harvey Cushing of Boston, Prof. John Stewart of Halifax, and Sir William Watson Cheyne. In conclusion, the chancellor announced that the Royal College of Medicine, Royal College of Surgery and the university had conceived a scheme of erecting an institute in honor of the memory of Lister which would include a pathologic laboratory and other departments of medicine. *The Scotsman* reports a special graduation ceremony. There is a brief biography after the name of each of the men on whom the degree of doctor of laws was conferred, including Vittorio Ascoli, M.D., professor of clinical medicine, University of Rome; Harvey Cushing, M.D., professor of surgery, Harvard University; Charles L. Dana, M.D., professor of nervous diseases in the University of Cornell; Lord Dawson of Penn, G.C.V.O., K.C.B., physician in ordinary to the king; Archibald Donald, M.D., emeritus professor of clinical obstetrics and gynecology, University of Manchester; Charles Edward Douglas, M.D., Cupar-Fife; Knud Faber, M.D., professor of medicine, University of Copenhagen; Sir William Hale-White, M.D., F.R.C.P.; Jan Van Der Hoeve, M.D., professor of ophthalmology, University of Leyden; Robert George Hogarth, F.R.C.S.E., Nottingham, ex-president, British Medical Association; Col. William Hunter, M.D., consulting physician to the Eastern Command and to Charing Cross Hospital, London; Otto Meyerhof, Kaiser-Wilhelm Institute of Biology, Berlin; Thomas Hugh Milroy, M.D., professor of physiology, Queen's University, Belfast; Sir Berkeley George Andrew Moynihan, president, Royal College of Surgeons of England; Sir John Herbert Parsons, ophthalmic surgeon, University College Hospital, London; Sir Humphry Davy Rolleston, M.D., regius professor of physic, University of Cambridge; George Frederic Still, M.D., professor of diseases of children, King's College, London; William Sydney Thayer, M.D., professor emeritus of medicine, Johns Hopkins University; Wilfred Trotter, F.R.C.S.; Theodore Martin Tuffier, Academy of Medicine, Paris; Sir Almroth Edward Wright, M.D., professor of experimental pathology, University of London, and Otto Naegeli, professor of medicine, University of Zurich (in absentia). *The Scotsman* is a remarkable newspaper; it must be peaceful in Edinburgh early in the morning.

HOSPITAL CHARITY IN MICHIGAN

An unusually efficient survey of the manner in which modern medical practice is attempting to meet the needs of the community is available in a preliminary report of a committee appointed by the Michigan State Medical Society to investigate the charity work of Michigan hospitals. The committee finds that the distribution of costs of hospital service is not equable since patients with more expensive accommodations are forced to pay the way to a considerable extent of those in the wards or cheaper rooms. "The relative proportion of wards and rooms is rarely adjusted," it is said, "to meet the pocketbook, and patients are frequently forced into rooms that are beyond their means." Moreover, patients are charged fixed rates and not according to their means, so that a wealthy patient, to save expense, may elect to go into a ward and thus deprive some more needy patient of the opportunity to secure reasonably priced accommodations. Among the costs assessed to patients are those associated with the maintenance of the nurses' training school, uncollected bills, outpatient departments, and charity work. The committee felt that all these charges actually belong on other shoulders. Because of the costs involved and the difficulty of meeting expenses, physicians are often asked to render free service to patients who should not actually have such service, the reason assigned being the cost of the hospital service. Here again the committee felt that physicians should not be obliged to render service without compensation in instances in which they did not feel that the patient was entitled to charitable service. The basic principle recognized was, however, that it is better to be overgenerous in the donation of services than to be harsh and uncompromising to those struggling for an existence and in distress. A special portion of the report dealt with the problems raised by the existence of the University of Michigan Hospital.

What Is Immunity?—Immunity to disease, the ability to resist infection, depends upon the presence in the blood stream and body cells of various immune substances or antibodies. The physiological chemistry of these substances is very complex. It is not known just how far hygienic living and vigorous health serve to increase the formation and powers of these antibodies, but there is a close relationship.—Report Joint Health Committee, Health Education, p. 26.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC)

CALIFORNIA

Personal—Dr Michael S Creamer Los Angeles, has been appointed assistant state medical director of the California Industrial Accident Commission to succeed the late Dr Henry I Southworth——Dr Allen F Gillihan has resigned as state district health officer of the California State Board of Health to become health officer of San Luis Obispo County, Dr Gillihan has been connected with the state board for ten years——Dr Henry M Beck has been appointed city health officer of San Rafael to succeed Dr William F Jones——Dr Emil W Meyer has been appointed health officer of San Bernardino County to succeed Dr Emmett L Tisinger——Dr George S Martin, Susanville has been appointed health officer of Lassen County to succeed Dr Hiram B Ehle

Committee Requests Consultation on Pyorrhea Research—For two years about fifty members of the faculty of the University of California and assistants have been investigating the cause of pyorrhea The Carnegie Corporation and various dental societies furnished about $100 000 to carry on this work Some of the experiments seem to show that in animals and man a condition approximating pyorrhea can be induced by "slight upsets in the acid-base balance of their diet" On account of this seeming 'tangential direction" which the research took the stomatologic research committee of the university requested the Carnegie Corporation to send the following men to California for consultation on this problem Lafayette P Mendel Ph D, Sterling professor of physiologic chemistry, Yale University Elmer V McCollum, Ph D, professor of biochemistry, Johns Hopkins University School of Hygiene and Public Health, and Dr Edward H Hatton, professor of pathology and special research investigator, Northwestern University Medical School, Chicago Dr Mendel first made the trip and Dr McCollum went late in July Dr Hatton was expected to arrive early in August Heretofore, research into the cause of pyorrhea has been largely through the approach of bacteriology rather than of nutrition

GEORGIA

Society News—Dr J E New, Dexter, was elected president of the Twelfth District Medical Society, July 7, at the midsummer meeting in Dublin, among the speakers on the scientific program were Dr Elmore C Thrash, Atlanta and Dr Thomas E Rogers, Macon, at the banquet, Dr Jarrett W Palmer, Ailey, was toastmaster, and, among others, the president of the Medical Association of Georgia, Dr William A Mulherin, responded There were sixty-four present at the banquet——Dr Herbert S Alden addressed the Fulton County Medical Society, Atlanta, July 21, on "Sickle Cell Anemia

Extension Teaching by Medical School—During the last school session the University of Georgia Medical Department held clinics in seven cities and towns of the state, under the auspices of the county medical societies who furnished the clinical material, there was an orthopedic clinic at Athens, and medical, pediatric and orthopedic clinics at Waycross, Cuthbert, Columbus, Rome, Cordele and Arlington This is the second consecutive year that the medical school has been engaged in this work The expenses of the faculty members who gave the clinics were paid by the general fund of the medical department

ILLINOIS

Rabies Increasing Down State, Decreasing in Chicago—The state department of public health reports a great increase in the prevalence of rabies since 1911 as indicated by laboratory data There were three positive cases reported in 1911, none from 1912 to 1918, thirty-nine in 1924, sixty in 1925, and 140 in 1926 The foregoing were reported from the laboratory in Springfield From the laboratory at Urbana, one positive specimen was reported in 1921, twenty five in 1924, and sixty nine in 1926 In the first five months of 1927, fifty-six positive specimens were reported from the Springfield laboratory While there appears to be an increase down state, there has been a decrease in the amount of rabies in Chicago, where, in 1911, there were 119 positive examinations without any marked decrease until 1916 when there were forty, in 1920 there were thirty, and in 1926, seventeen

Chicago

Accidental Deaths in July.—The records in the office of the coroner of Cook County are said to show an unusual number of accidental deaths for the month of July The automobile was responsible for eighty-four, drowning, sixty-two, heat, thirty eight, airplane five, storms, four, and fireworks, four, a total of 197

Society News—The meeting place of the Jackson Park Branch of the Chicago Medical Society will be at the new Albert Merritt Billings Hospital of the University of Chicago at Ellis Avenue on the Midway——Dr Herman M Adler will give an address during the annual meeting of the American Bar Association, Buffalo, August 30, on "Biologic and Pathologic Aspects of Behavior Disorders"

Camp for Heart Cases—Under the auspices of the Chicago Heart Association, a group of about 350 cardiac patients taken from various Cook County clinics, left, July 18, for a summer vacation at Camp Reinberg Palatine, Ill The Cook County commissioners are said to have afforded the accommodations for the patients, and to have gradually increased the facilities annually since 1922 from ninety beds to 350

Additions to Medical Faculty—The board of trustees of the University of Chicago announces the following additional appointments to the faculty

Dr Rollin T Woodyatt chairman of the department of medicine
Dr Dudley B Reed director of the health service and professor in the department of hygiene and bacteriology
Dr Frederick Tice clinical professor in the department of medicine, Rush Medical College
Dr Solomon Strouse associate clinical professor in the department of medicine Rush Medical College

Requests for Medical Speakers—The lay educational committee of the Illinois State Medical Society is receiving requests from women's clubs for physicians to appear on their programs during the coming season The county superintendents of schools are also asking the committee to furnish speakers for teachers' institutes The discussion of such subjects as the 'Periodic Health Examination,' "Health Audits for Club Women" and 'Team Work with the Community" is being requested The committee received eighty-eight requests for speakers between January 1 and May 1 for the Kiwanis', Lions, Rotary and Optimist clubs, and the parent-teacher associations, the home bureaus and women's clubs

Tuberculosis in Chicago—Last year the mortality from all forms of tuberculosis in Chicago amounted to 83 per hundred thousand of population, for the year 1900 the rate was 173 9 Tuberculosis has dropped on the list of important causes of death in Chicago from first to fifth place According to the June 28 bulletin of the health department, it appears that more males died from tuberculosis in Chicago than females, the respective rates last year having been 80 3 and 66 5 There has been no increase in the death rate from pulmonary tuberculosis in the white population of Chicago since 1922, although the rate for the city as a whole has increased somewhat since that year due to an increased death rate among the negro population, which is about two and one-half times as high as the rate for the white population For children under 11 years of age, the negro death rates in 1924, 1925 and 1926 were from ten to twenty times as high as those for the white population in the same age group During 1926, nearly 41 per cent of the deaths among children under 11 years of age were in negroes, although only 3 per cent of the children in Chicago are negroes The enormous mortality from tuberculosis among negroes is the subject of a negro health survey which is now being made under the direction of Dr Harrison L Harris, Jr Funds are being raised for a special study of negro health in Chicago by the city commissioners of health with the support of several aldermen and others, and it is expected, the report states, that a concrete program for improving the health of negroes as a part of the general community health program will soon be forthcoming

INDIANA

Society News—Wabash and Grant county medical societies held a joint meeting at Somerset, July 21, Dr Earl A Rogers, Somerset, and Drs John C Knight, Jonesboro, and James L Walker, Lafontaine, were the hosts Among the guests of honor were Dr George R Daniels, Jr, Marion, president of the state medical association, and Dr Frank E Abbott, Indianapolis

"Dr." Wright, Impostor, Adjudged Insane.—It is reported that "Dr" James F Wright, who was arrested at Huntington in March, on a charge of practicing medicine without a license, was adjudged insane, July 2, and sent to the Indiana Hospital for the Insane at East Haven, Richmond THE JOURNAL, April 16, noted that the Indiana State Board of Registration in Medicine had revoked the license of John F Wright, Jan 12, 1926 which license is said to have been issued to James F Wright, who had obtained it by fraud and misrepresentation Wright was convicted of the charge, May 10, and since then has been working out his fine on the state farm He is said to have been committed to the state hospital for the insane nine years ago

KENTUCKY

Society News—Dr William M Elliott, Western State Hospital, Hopkinsville, entertained the Christian County Medical Society at the hospital, July 19 There were fifty-five persons present Dr Curran Pope Louisville, spoke on 'How We Think," and Dr Perry Bromberg, Nashville, Tenn, on "Infections of the Kidney '

Hickman County's Annual Meeting—Every physician of Hickman County with one exception attended the annual meeting of the Hickman County Medical Society, July 14, and that member was absent on account of having to accompany a patient to Paducah The society met at the home of Frank Jordan The special feature of the meeting, the Clinton *Gazette* says, was a picnic meal including squirrel stew and catfish Among the guests was Congressman Voris Gregory of Mayfield, who in an address entitled "Then and Now' discussed the progress that had been made in medicine Dr Herbert H Hunt of Mayfield also gave an address

MAINE

Personal—Governor Brewster has reappointed Dr Adam P Leighton Jr, Portland, and Dr William G Chamberlain, Fort Fairfield, to the state board of registration of medicine for terms of six years, this is Dr Leighton's third appointment, and he has been secretary of the board for the last five years, Dr Chamberlain has served one term

Increase in Death Rate—The U S Department of Commerce announces that the death rate for Maine for 1926 was 1,437 per hundred thousand of population, as compared with 1 371 in 1925 The increase is accounted for by increases in the death rates for influenza heart disease, nephritis, measles, whooping cough, tuberculosis and pneumonia During the year, there was a decrease in the death rates for typhoid and paratyphoid

Health Officer Resigns—Dr William J Young, for several years head of the health department of Waterville, resigned, effective, July 9, to become assistant surgeon at the Eastern Barracks of the National Soldiers Home at Togus Dr Young served overseas during the World War, and now holds a commission as major in the medical reserve corps He was for several years college physician and coach at William and Mary College, Williamsburg, Va for a year athletic director at the University of Maine, and for a year, medical examiner at A and M College at College Station, Texas, coming from there to Waterville

MARYLAND

University News—At the commencement of the University of Maryland, the president announced an endowment of $4 500 annually for the support of a professorship in biologic testing and drug assaying in the school of pharmacy, and an endowment of $1,500 annually for the support of a fellowship in pharmacology in the school of medicine

Dr. Baer Honored—A portrait of Dr William S Baer, associate professor of clinical orthopedic surgery, Johns Hopkins University School of Medicine, was presented to the Children's Hospital School, Baltimore, June 1, where he has been on the staff since the school was founded in 1903 Dr Baer is shown standing over a crib in which lies a crippled child The artist was Harold Knight

Health Department Items—The state department of health is making a survey of retail drug stores throughout the state with reference to the operation of the pharmacy law, as a result pharmacies found in charge of persons not legally qualified to compound physicians' prescriptions have been notified of the requirements of the law, and warned that failure to have legally competent persons in charge would be sufficient cause for prosecution——The healthmobile of the bureau of child hygiene of the state department of health has, since June 1, visited forty communities in Prince George, Charles, St Mary's and Calvert counties, holding health conferences under the direction of the local health officer 629 children were brought to these conferences Regular child health conferences are being held as usual during the summer throughout the rest of the state

MASSACHUSETTS

Personal—Dr Richard P Strong Medical School of Harvard University, Boston has returned from an expedition to Africa in the interest of tropical medicine, the *Boston Medical and Surgical Journal* notes that a large amount of material was collected for study

Licenses Revoked.—The state board of registration in medicine at a meeting, July 31 revoked the license of Dr Ralph E D Hawley, Lynn, "because of an abortion' , the license of Dr John J Donoghue, Worcester, 'because of the conviction of a felony," and the license of Dr Arthur S Hudson, Wilmington, "because of violation of the prohibition law and association with an unregistered person"

Massachusetts' Cancer Problem—The highest death rate for cancer in any state in the union is said to be in Massachusetts The commissioner of public health has stated that there are about 5 000 deaths from cancer each year With the aid of recent legislation, a program has been developed in an effort to meet the cancer problem It consists (1) of a cancer hospital which was recently opened by the state at Norfolk, and (2) of cancer clinics which are operating at Lynn Newton, Springfield and Worcester, and of which others will be developed as resources warrant Studies in the epidemiology of cancer are being conducted by the state department of health covering many phases of cancer The records of cancer patients are being tabulated in a variety of ways Visiting nurses throughout the state are filling out questionnaires which give information in detail about the habits of the cancer patient, and each nurse is obtaining from a noncancerous patient similar information as a control Studies will be conducted at the hospital at Norfolk, and data obtained in a house to house survey in a selected community will be analyzed The last issue of *The Commonhealth,* which is published by the state department of health, is very largely given over to discussions of the cancer problem

MINNESOTA

Society News—The meeting of the Northwestern Pediatric Society at Rochester, July 16, was attended by pediatricians from Kansas City, Iowa City, Minneapolis, St Paul, Winona and Mankato, and among the speakers were Dr Henry F Helmholz on "Mode of Infection in Pyelitis", Dr Vernon B Dowler, "Flat Feet in Young Children," and Dr Samuel Amberg, "Case of Nephrosis"——The professional staff of the Mayo Clinic, Rochester, held a picnic on the afternoon of July 21 at Soldiers' Field

Personal—Dr Gunnar Ahlgren of the University of Lund, Sweden, is spending four months as temporary associate in the metabolism laboratory of the Mayo Clinic, Rochester, introducing methods for the study of tissue metabolism which he has developed in conjunction with Professor Thunberg——The following persons have been appointed fellows at the Mayo Foundation Dr Nicholas Eugene Lacy, Kansas City, Mo, otolaryngology, Dr Leo P Coakley, Omaha, otolaryngology and rhinology, Dr Eli E Christensen, Rochester, surgery, Dr Maurice J Reuter, Milwaukee, dermatology Dr Walter J Siemsen, Parkersburg Iowa, pediatrics, and Dr John M Berkman, Rochester, medicine——Prof Boris E Linberg dean of the faculty and director of the surgical clinic University of Smolensk, Russia, who will study recent developments in American surgery for a few months, will be at the Mayo Clinic until the latter part of August and then will visit medical institutions in Chicago, Boston and New York

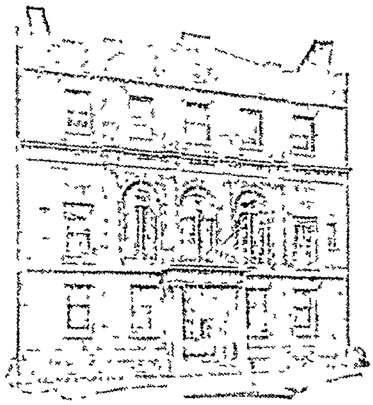
NEW YORK

Glenfield Needs a Physician—The village of Glenfield in Lewis County is looking for a resident physician, according to the state department of health, as the one physician there now has been ill for some time Glenfield has about 400 people, many of whom are employed in lumbering operations Inquiries should be addressed to Miss Mary O Van Allen, secretary, Lewis County Home Bureau, Box 137, Glenfield

Society News—At the annual meeting of the Lake Keuka *Medical and Surgical Association*, more than 250 physicians registered from twenty-one counties in New York and northern Pennsylvania; Dr. Albert M. Crance, Geneva, was elected president, and Dr. John A. Hatch, Penn Yan, reelected secretary-treasurer. Dr. James E. Sadlier, Poughkeepsie, and Dr. Joseph S. Lawrence, Albany, represented the state medical society at this meeting.——The Oneida County Medical Society voted, July 12, in favor of the Yale farm at Adler Creek as a site for a county tuberculosis hospital. The committee, appointed by the society to consider the selection of a site, examined before making a decision the Brucker site on the Walker Road, the Small property on the Walker Road, and various places near Boonville, Trenton Falls, Prospect, Remsen and Hinckley Lake.——The Associated Physicians of Long Island held their annual meeting at Shinnecock Hills Golf Club, Southampton, June 7. Eighty-nine persons were present. There was the usual luncheon, dinner and golf; many visited points of interest in the neighborhood, including the Southampton Hospital.——Dr. William H. Ross, Brentwood, invited the South Side Clinical Society and friends to his "Retreat" at Fort Salonga on Long Island Sound, June 18, for recreation and dinner.——The Medical Society of the County of Queens held an outing, June 14, at Harbor Inn, Rockaway Park, jointly with the Medical Association of the Greater City of New York.——Nassau County Medical Society held its annual spring boat ride, embarking from Charlie Johnson's, Freeport, at 3:30 p. m., for a sail down the bay and dinner.

New York City

Growth of Medical Society of the County of Kings.—At the residence of Dr. Adrian Vanderveer in Flatbush, in February, 1822, the Medical Society of the County of Kings was organized by a few physicians. Brooklyn has grown since then from a small city to a great center of population, and the Medical Society of the County of Kings has kept pace. It was the first county medical society in this country to own its own building. In 1858, the meetings were held at the Lyceum on Washington Street; in 1866, the meeting place was changed to the Hamilton Building, 44 Court Street; in 1875, to Everett Hall, 398 Fulton Street, and from there, in 1887, the society moved into its own building at 365 Bridge Street. That place was outgrown and was sold, in 1898, and meetings were then held in Apollo Hall. The question of buying its own home was raised again in 1894. The site, at 1313 Bedford Avenue, was then purchased and the present building erected. It has an auditorium seating 400, space for 100,000 books, and reading and conference rooms. In the July bulletin of the society, it is said that at monthly meetings every seat is occupied and the aisles and lobby crowded. Books are everywhere; cellars are full; store rooms are full, and committee rooms are banked with books. Part of the smaller meeting room on the top floor is fitted with desks and chairs and made into a secretary's office. The lobby is altered to accommodate workers. The foreign journal room is used as an office. There is a state of oversaturation. The building is too small to house those who would use it. The great library of the Medical Society of the County of Kings is a public medical library used by high school students, teachers, medical students, students from private schools, clergymen, scientific writers and other types of workers. And so there is talk among members of the need of a new building. The trustees recently acquired the corner at Bedford and Atlantic avenues which adjoins the library building. In the entire history of the Medical Society of the County of Kings, only two outside bequests of $1,000 each have been received. Everything that it has purchased has been paid for by the physicians themselves, and they do not intend now to inaugurate a drive for funds for larger quarters. They look to those citizens who have done much in a generous way for the community to help erect in Brooklyn a building worthy of the community and of one of the most vigorous local medical organizations in the country.



OREGON

License Restored.—The state board of medical examiners adopted a resolution, July 6, rescinding the revocation of the license to practice medicine of Dr. Dan E. Standard and reinstating him in practice. Dr. Standard's license was revoked by the board in 1925.

Society News.—The Eastern Oregon District Medical Society will hold its annual meeting at Wallowa Lake under the presidency of Dr. James C. Bartlett, August 6. Among the papers presented will be "Special Treatment of Active Clinical Tuberculosis" by Dr. Grover C. Bellinger, Salem; "Spinal Anesthesia" by Dr. William T. Phy, Hot Lake; "Rationale of Agencies for the Treatment of Cancer" by Dr. Robert C. Coffey, Portland, and "Medical Electricity" by J. E. Cole, Spokane, Wash.——The Clatsop County Medical Society gave a dinner, July 13, at the Hotel Astoria, Astoria, at which Dr. Frederick D. Stricker, state health officer, and Dr. Willis B. Morse, Salem, president, Oregon State Medical Association, were among the guests of honor.——Dr. John H. Fitzgibbon, Portland, was the guest of honor at a dinner and meeting of the staff of the Longview Memorial Hospital, Longview, July 13.

SOUTH CAROLINA

Health Center in Rural Community.—An inexpensive building has been erected at Adams Run for a community health center to serve a large rural negro population. The Harmon Foundation has made provisions for maintaining the health center for five years, assuming the entire expense the first year; two thirds of the expense the second year, and one third the third year; Charleston County will assume the financial responsibilities for the remainder of the period.

Two Months' Drive on Periodic Health Examinations.—Beginning August 1, the state medical society will conduct a campaign throughout the state to impress county medical societies with the importance of periodic physical examinations. The president of the state society, Dr. D. Lesesne Smith, desires that all county societies hold their meetings on the subject of health examinations during August and September. Outside speakers will be available for most of these meetings, and demonstrations of how to conduct a health examination, as well as lectures, will be on the program. Dr. Smith called a meeting in May, in Columbia, of leading physicians in the state to discuss this work. Most of the physicians present volunteered to go before county societies and other organizations to present the advantages of periodic health examinations. The trustees of the state medical society have presented to the trustees of the state medical college the request of the society concerning postgraduate instruction, and in September the college will give an intensive postgraduate program for one week. Members of the faculty, on request, will give postgraduate lectures and demonstrations before county medical societies throughout the year. The college will be requested to include in its postgraduate work lectures and demonstrations on proper methods of conducting periodic health examinations.

TENNESSEE

University to Give Postgraduate Courses.—It was announced, July 19, that the University of Tennessee College of Medicine will offer a series of postgraduate courses beginning with the 1927-1928 scholastic year, which opens, September 27. The courses will cover fourteen weeks' work, it is said, and registration will be limited to twelve in each course. The courses to be given this fall will be in otolaryngology, ophthalmology, roentgenology, pulmonary tuberculosis, diseases primarily affecting the blood, and orthopedic surgery; from January 25 to May 24, the postgraduate courses will be in diseases of the chest, diseases of the heart and circulation, gastro-enterology, gynecology, obstetrics, pediatrics, dermatology and syphilology, and urology.

Society News.—Dr. Stewart Lawwill, Chattanooga, addressed the Chattanooga and Hamilton County Medical Society, July 13, on "Diphtheria and Intubation."——Dr. Leonard E. Ragsdale, superintendent, Tennessee Home and School for Feebleminded, Donelson, addressed the Maury County Medical Society, July 11, on "Two Aspirin Tablets and a Coca Cola." According to the Columbia *Herald*, this was the largest meeting in the history of the county society.——Among others, Dr. Henry F. Clay, Henderson, Ky., addressed the Knox County Medical Society in June on "Ephedrine," and Dr. John Howard King, Nashville, on "Precancerous Dermatosis."——Dr. Granderson Hearn Bradley, Nashville, addressed the Williamson County Medical Society, June 15, on "Bacillary Diarrhea of Children."——Physicians from Hardin, Lawrence, Wayne, Perry and Lewis counties met at Waynesboro, June 28, to organize a county society; they elected Dr. George C. Morris, Savannah, president, and arranged for a meeting in July, and for the presentation of four scientific papers by physicians of Savannah.

Community Cooperation and Clinic.—The Obion County Medical Society and the county health department cooperated recently in correcting certain physical defects of school children in that community which had been repeatedly reported through the school inspection service. When it was decided to hold a clinic to correct these defects, letters were sent to each physician and magistrate in the county explaining the plans, and the physicians instructed the county health officer, Dr. Clarence B. A. Turner, to make the arrangements. In order for a child to be admitted, the parents were required to sign a card which was countersigned by the family physician and the magistrate of the district in which the child resided. A church gave the use of its basement for the clinic; one department of the church was converted into a ward; one of the class rooms was used for the administration of anesthetics and the kitchen was used for an operating room. Fourteen children were admitted for operation as well as eight older persons. Local surgeons removed tonsils and adenoids, and nurses from county health departments and other ladies assisted. The state health officer, in commenting on this work, said, in part, that the problem of rendering medical service to those in need of medical attention was left where it should be—in the hands of the practicing physician. No case was admitted except as referred by the family physician, and no specialists were brought in from other communities. Another physician said that this clinic represented a splendid partnership between physicians and the county health department in Obion County.

WEST VIRGINIA

Society News.—The West Virginia State Medical Association is conducting negotiations for the purchase of a beautiful residence in Charleston for a permanent home for the state society. Plans are being formulated to raise the funds necessary, and it seems probable that within the next twelve months a state headquarters will be provided.

Personal.—Dr. Edwin F. Sheppard, of the staff of the Fairmont State Hospital, left, June 30, it is reported, for Jenkins, Ky., to become director of the Consolidation Coal Company Hospital.——Dr. Theodore R. Meyer has been reappointed health officer of Wood County for the fiscal year 1927-1928; Dr. Meyer is also health commissioner of the city of Parkersburg.

WYOMING

Personal.—Dr. George O. Hanna, Lingle, has been appointed health officer of Goshen County.——Dr. Thomas E. Marshall, Sheridan, has been appointed county health officer for a term of four years, succeeding Dr. Edwin E. Whedon.

Decrease in Death Rate.—The U. S. Department of Commerce announces that the death rate for Wyoming for 1926 was 806 per hundred thousand of population, as compared with 828 for the year 1925. The decrease was accounted for largely by decreases in the death rates from heart disease, typhoid and enteritis, tuberculosis and automobile accidents. There was an increase during 1926 in the death rates for influenza, pneumonia and whooping cough.

GENERAL

Medical Alumni Meeting.—The third annual meeting and dinner of the Ensworth-Central Medical College Alumni Association will be held in St. Joseph, Mo., during the clinical week in Kansas City, October 15-21, the exact date to be announced later. The secretary is anxious to enroll all graduates of Northwestern, Ensworth-Central Medical Colleges. The professors are eligible to membership, and are urged to attend. The names should be sent to Dr. Charles W. Fassett, secretary, 115 East Thirty-First Street, Kansas City, Mo.

Society News.—At the annual meeting of the American Orthopedic Association, San Francisco, in June, Dr. A. MacKenzie Forbes, Montreal, Que., Canada, was installed as president; Dr. Fred H. Albee, New York, was elected president elect; Dr. Willis Campbell, Memphis, Tenn., vice president; Dr. De Forest P. Willard, Philadelphia, secretary, and Dr. John L. Porter, Evanston, Ill., treasurer.——Dr. George M. MacKee, New York, will address the American Stomatological Association at its next meeting, October 19, at the Columbia University Club, 4 West Forty-Third Street, New York, on "Syphilis of the Mouth," illustrated with lantern slides.——Dr. Fitch C. E. Mattison, Pasadena, Calif., was elected president of the American Therapeutic Association at the annual meeting, held, May 14-16, at Washington, D. C., and Dr. William J. Mallory, Washington, D. C., was reelected secretary. The next meeting will be held in Minneapolis in 1928.

Eight Year Total of Automobile Deaths Enormous.—In the four weeks ending July 16, 573 persons were killed in automobile accidents in seventy-seven large cities of the United States, as compared with 482 for the corresponding period last year. For the fifty-two weeks ending July 16, the total number of persons killed in automobile accidents in these cities was 6,986, as compared with 6,393 for the fifty-two weeks ending July 17, 1926. The rate for the last period is, therefore, 21.7 per hundred thousand of population, as against the rate of 20.2 for the preceding fifty-two weeks. That is an increase of 7 per cent in the rate in a single year. During the four weeks ending July 16, no fatalities were reported to the U. S. Department of Commerce by five of these cities: Kansas City, Kan.; Oakland, Somerville, Tacoma and Waterbury. The National Automobile Chamber of Commerce is said to have reported that the number of persons killed in the United States in automobile accidents in the eight years ending, Dec. 31, 1926, was 137,017, and that the number injured during that period was about 3,500,000.

Census of Nurses in Industry.—The National Organization for Public Health Nursing is preparing to make a census of nurses in industry to determine as accurately as possible how many nurses are working in industry; where and in what industries they work, and what they do. The study will include all types of business, such as manufacturing interests, mining, commerce, trade, transportation and public service, and also the various industries that maintain nursing organizations or give nursing service to employees. The National Organization for Public Health Nursing completed a survey of public health nurses in the United States in 1926, and now it proposes to survey nurses in industry. The organization will appreciate receiving from any one names of firms, companies, offices, associations, hotels, insurance companies and other industries which employ nurses, as well as suggestions as to whom to write for information about nurses employed in industry. All information regarding nurses in industry should be mailed to Statistical Service, National Organization for Public Health Nursing, 370 Seventh Avenue, New York.

General Wood Requests Funds to Combat Leprosy in Philippines.—The New York *Times* interviewed Gen. Leonard Wood, Governor-General of the Philippine Islands, now on leave in the United States, July 24, concerning leprosy in the islands. General Wood, who expects to return to the Philippines in October, hopes to rid the islands of leprosy before he retires. He said that encouraging progress has been made during the last six years, and that about 1,000 lepers have been sent home cured from the Culion leper colony in that period (The Campaign Against Leprosy, editorial, The Journal, May 28, p. 1718). There are still more than 5,000 lepers at Culion, and a total in the islands of about 12,000. Culion is an island about 200 miles south of Manila which is given over wholly to the leper colony. The island is 20 miles long and 9 miles wide; it is planned to open up the interior, so that lepers under treatment at the hospital may be placed on farms of their own when the disease is under adequate control, and pending their complete recovery. The government of the Philippines is spending now about 2 per cent of its income to carry on the Culion leper colony; it cannot do more. General Wood is therefore requesting aid in this country to be spent under the supervision of the Filipino government for new construction at the Culion leper colony and for new laboratories and better equipment. The current expenses of the Culion leper colony will continue to be defrayed from public revenues. A large committee of prominent persons have made an appeal to New Yorkers to assist in raising this fund. An intensive drive for the same purpose is being conducted on the Pacific Coast.

Report of United Fruit Company.—The general manager of the medical department of the United Fruit Company, Dr. William E. Deeks, New York, has published a report for the year 1926. The United Fruit Company maintains fully equipped hospitals at Port Limón, Costa Rica; Almirante, Panama; Quiregua, Guatemala; Santa Marta, Colombia; Preston, Cuba, and Bales, Cuba, as well as dispensaries in its tropical divisions and dispensary service with sanitary staffs in the ports of New Orleans, Boston and New York. The medical department of the company provides medical care for its employees and their dependents, and for the inhabitants of communities contiguous to their plantations when no other medical service is available. It provides medical care for passengers and crews on its steamships, makes physical examinations of prospective employees, and recommends and supervises in matters pertaining to sanitation. The total number of persons dependent on the medical department of the company for treatment during 1926 was 138,354, and the number of persons treated in hospitals was 29,410. Of the endemic diseases in the tropics, malaria was of the greatest economic importance to the company in its relation to labor efficiency, and was directly responsible for from 38 to 40 per cent of all hospital admissions; malaria caused more poverty and loss of man power than all other endemic diseases combined. During the year, the medical department arranged for several well known physicians and scientists to perform special duties for the company, such as malaria surveys, investigation of the sand-fly nuisance in Puerto Castilla and research work on a precipitin test in malaria. The report contains a number of papers on these special studies.

Medical Society of the Missouri Valley.—The September 14 meeting of the Medical Society of the Missouri Valley to be held at Des Moines, Iowa, will include clinics or addresses by the following persons: Harry W. Dahl, Des Moines, Iowa; Lewis J. Pollock, professor and chairman of the division of neurology and psychiatry, Northwestern University Medical School, Chicago; Walter L. Bierring, Des Moines, Iowa; Anton J. Carlson, professor of physiology, University of Chicago; Charles C. Tomlinson, assistant professor of dermatology and syphilology, University of Nebraska College of Medicine, Omaha; Paul M. Bancroft, B.S., fellow, department of pathology, University of Nebraska College of Medicine, Omaha; Arthur D. Dunn, director, department of experimental medicine, University of Nebraska College of Medicine, Omaha; Bernard M. Kully, instructor in otolaryngology and anatomy, Creighton University School of Medicine, Omaha; Caryl A. Potter, St. Joseph, Mo.; William T. Bovie, Ph.D., professor of biophysics, Medical School of Harvard University, Boston; Richard L. Sutton, professor of dermatology, University of Kansas School of Medicine, Kansas City, Kan.; Nelse F. Ockerblad, associate professor of clinical urology, University of Kansas School of Medicine, Kansas City, Kan.; Herman L. Kretschmer, professor of urology, Rush Medical College, Chicago; William T. Coughlin, professor of surgery and director of department, St. Louis University School of Medicine, St. Louis, Mo.; Ralph H. Major, professor of medicine, University of Kansas School of Medicine, Kansas City, Kan.; Clifford C. Nesselrode, associate professor of surgery, University of Kansas School of Medicine, Kansas City, Kan.; James F. McDonald, professor of anatomy, Creighton University School of Medicine, Omaha; David P. Barr, Busch professor of medicine, Washington University Medical School, St. Louis, Mo.; F. B. Langdon, Des Moines, Iowa; Everett D. Plass, professor and head of the department of gynecology and obstetrics, State University of Iowa College of Medicine, Iowa City; Arthur Steindler, professor and head of the department of orthopedics, State University of Iowa College of Medicine, Iowa City; Fred M. Smith, professor and head of the department of the theory and practice of medicine, State University of Iowa College of Medicine, Iowa City.

FOREIGN

Personal.—Dr. R. de la Poer Beresford has resigned as medical officer of health for the Oswestry rural district, England, after fifty-four years' service.——Prof. von Eiselsberg of Vienna gave the Lister lecture at the Royal College of Surgeons of England, July 7.——A memorial to the late Dame Louisa Aldrich-Blake, formerly dean of the London School of Medicine for Women, was unveiled at Tavistock Square, London, July 4; the memorial is located about 200 yards from the headquarters of the British Medical Association.

Postgraduate Course in Digestive Pathology.—A special course in digestive pathology, organized by Prof. F. Gallart y Monés, in collaboration with sixteen hospital physicians and university professors, has been announced by the Hospital de la Santa Cruz of Barcelona, Spain. The course will cover a period of three months, beginning October 5, and will comprise fifty-eight lectures on such subjects as: physical pathology of intestinal digestion, Dr. Gallart; surgical therapeutics of the intestine, Dr. Puig Sureda; surgical therapeutics of the stomach and duodenum, Dr. Corachán, and roentgenotherapy and curietherapy in digestive pathology, Dr. Pujol y Brull. Patients will be presented daily, and their conditions discussed in the clinic and dispensary of the hospital.

Government Services

Promotions to Rank of Colonel in Medical Corps

The war department has announced the promotion from the rank of lieutenant colonel to colonel of the following officers of the medical corps; all of these officers have been in the service for many years:

Henry H. Rutherford
Ernest L. Ruffner
Patrick H. McAndrew
George M. Ekwurzel
Carroll D. Buck
John H. Allen
Robert U. Patterson
Roger Brooke
Wallace DeWitt
Matthew A. De Laney
Paul S. Halloran
Kent Nelson
Peter C. Field
Herbert G. Shaw
Louis Brechemin, Jr.
Clement C. Whitcomb

Appointments to Public Health Service

The Surgeon General, U. S. Public Health Service, announces the following appointments of physicians to the service in the grade of assistant surgeon, effective the date of oath:

Ralph Horton, Pinesville, Mo.
Gerald M. Kunkel, New Orleans
Edmond T. Lentz, Chicago
W. J. Bryan McAuliffe, Baltimore
Fred W. Caudill, New Orleans
Albert S. Irving, New Orleans
William W. Nesbit, Norfolk, Va.
George D. Boone, Jr., Staten Island, N. Y.
Leon O. Parker, Staten Island, N. Y.
Bernard J. Macauley, New Orleans
Charles B. Stacy, New Orleans
John R. Murdock, San Francisco
Thomas C. Kienzle, New Orleans
Cecil C. Swann, New Orleans
Leo J. Hand, Chicago
George R. Welch, New Orleans
George W. Buchanan, Staten Island, N. Y.
Clarence D. Kosar, Staten Island, N. Y.
Joseph F. Van Ackeran, New Orleans

Hundreds of Reserve Officers in Summer Training

Hundreds of medical reserve officers of the U. S. Army are taking advantage of the training offered in the camps throughout the country this summer. An endeavor has been made to concentrate the training of these officers at the following places, although many are training elsewhere: Carlisle Barracks, Pennsylvania, June 12-26 and July 3-17, about 650 reserve officers; Fort Snelling, Minnesota, June 12-26 and July 3-17, about 300 reserve officers; Camp Lewis, Washington, June 12-26 and July 3-17, about seventy-five reserve officers; Fort Sam Houston, Texas, July 17-31, about sixty reserve officers. The medical department of the army has made a special effort to have equipment and instructors available at these stations, so that the approved training programs can be carried out in a uniform manner. The reserve personnel undergoing training at the Carlisle camp came from the First, Second, Third, Fourth and Fifth corps areas; that for the Fort Snelling camp from the Sixth and Seventh corps areas; that for Camp Lewis from the Ninth corps area, and that for Fort Sam Houston from the Eighth corps area. The June camps were considered basic camps, and the personnel undergoing training consisted principally of junior officers. The instruction afforded them was largely individual, covering physical training, drill, mobilization duties, military hygiene and sanitation, and medical tactics. In the July camps, special effort was made to provide unit training. While some of the instruction was general in character, for the most part unit commanders were made to assume responsibility for the training of their respective units and to carry out the program laid down. Instruction included work on the mobilization plans of the respective units represented (medical regiments, surgical hospitals, evacuation hospitals), and a review of the tactics and technic of the medical department and of problems and terrain exercises covering the employment of the units in different situations.

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 16, 1927

The Heating of the New Reptile House at the Zoological Gardens: A Problem in Reptile Hygiene

Most reptiles can be kept healthy only when the water in which they bathe, the rocks on which they bask, and the walls surrounding them are kept at a temperature of about 80 F.; but it is necessary to vary this optimum in different cages They also need good ventilation They must have sunlight, or when the London clouds and fogs shut this off they must have a substitute These conditions have been fulfilled in a remarkable manner in the new reptile house at the Zoological Gardens. It is a building of one floor of dimensions less than 180 by 80 feet; it has about 20 miles of electric cable, and cages of a few feet square have from twenty-eight to 200 electrical connections Partly to save waste of current and partly to provide for the comfort of visitors, the heating elements are confined to cages and dens in most cases separated from the public passages by glass windows. Condensation of the moisture in the dens would tend to obscure the glass by a deposit of mist; this has been overcome by focusing rays of dark heat from special radiators directly on the glass. Other sets of radiators are placed so as to throw pools of brilliant artificial sunlight, rich in ultraviolet rays, directly on rocks and ledges on which the reptiles may bask in the full sight of the public A third set supplies ordinary lighting to be used on dull days or after dark. Full advantage, moreover, has been taken of what sunlight the London sky may give by vitaglass (glass permeable by the ultraviolet rays) windows where possible from the public gaze On a cloudless summer day the amount of direct heat from the sun is almost sufficient to give the necessary temperatures, but to an extent varying from hour to hour, and from cage to cage, as the sun changes its direction and elevation So also on a dark winter day the full supply of artificial lighting at once sends up the temperature. The fluctuations would be dangerously great with a heating system of the usual hot water or steam types The electric current supplied to the heating elements in each cage is controlled by automatic thermostats so designed that the current is automatically shut off when the temperature reaches 83 F, and automatically restored when it falls to 77. Thus, if heat is coming from the sun or from the artificial lights, so much less current will be supplied to the heaters. The temperature might rise to a dangerous point or fall to a dangerous point from some failure in the thermostats or in the heating elements themselves. To meet this an independent telltale device has been installed, linking each cage to an indicator board in the head keeper's room If it rises to 85 a bell rings and a small red light shows against the number on the board representing the defective cage; if the temperature falls to 75, the bell also rings and a green light shows

The Bottled Remedies Fetish

"The bottle of medicine habit is nothing but a persistence of a depraved superstition or a form of medieval fetish worship," said Prof F. E Wynne, health officer for Sheffield, lecturing on "Sunlight and the Return to Nature" to the People's League of Health. Attacking the widespread use of drugs, he said that thousands of pounds spent every year on drugs under the national health insurance act were a pure waste of money. If that expenditure ceased, instead of a deterioration in public health there would be a big improvement. Every physician who went through a long and expensive training expected to be able to earn a "living" at the end of it He might long to be a teacher of his patients, but if he yielded to that longing he must make up his mind to retire into the wilderness of poverty. The public put great faith in the "bottle of medicine" cure for practically every disease The popular conception of disease and its treatment was apparently that there was a list of diseases unrelated and separate, and also a list of "remedies" which could be bottled, and the clever physician was the one who had the longest list at his finger tips Most mischievous of all was the doctrine that all diseases might be attributed to "chill," with the consequent horror of fresh air, especially of "night air," which, in cities, at all events, was in reality definitely purer than the "day" air

A Chair of Dietetics at the London University

The University of London has decided to found a chair of dietetics The idea of this chair of dietetics seems to be due to the health campaign articles by Sir William Arbuthnot Lane in the *Daily Mail*. In December, 1926, a woman reader, impressed by Lane's articles, offered $50,000 toward the cost of founding a chair of dietetics in the University of London In May, 1927, Messrs A Wander, Ltd, manufacturing chemists, offered a further $50,000 for the same purpose Thus a fund was formed which has made possible the setting up of this chair

Vital Statistics

The registrar general's analysis of the births, marriages and deaths in England and Wales in 1925 has just been published. It shows that as a result of the continuous shrinkage in the birth rate with an approximately constant death rate during the last few years, the natural increase of population by excess of births over deaths is steadily falling As previously reported in The Journal, the first quarter of the present year showed an actual excess of deaths over births Since 1920, when it rose to 25 5 per thousand, the decline in the birth rate has been continuous The considerable fall in the year under review was succeeded by an equally significant decrease in 1926, and it is difficult comments the registrar-general, to assign limits to the decline and to discern when and where the trough of the present depression is likely to be reached The birth rate in this country attained its highest values during the period 1865-1880, when it exceeded 35 per thousand of population From that time it diminished by gradual and practically continuous stages to 23 8 in 1914, it is now 18 3, little more than half the maximum figure of 36 3 recorded in 1876, and having regard to current economic and industrial conditions appears likely to remain unprecedentedly low Many remarkable changes in relation to the deaths of infants have occurred within the last eleven years Measles, whooping cough and diphtheria all exhibit substantial declines The fall recorded for tuberculosis is much greater, indeed, this disease is rapidly losing all importance as a contributor to the mortality of infancy The rate has fallen from 6 41 deaths per thousand births in 1901 to 1 26 in 1925 At all the ages under 75 the mortality of each sex was lower in 1925 than it was before the war. At all ages jointly the crude rate has fallen by 12 8 per cent, but when allowance is made by standardization for increased age of the population, the extent of the fall is increased to 20 7 per cent As many as 5,365 cases of smallpox were notified—by far the highest number since 1911—but only nine deaths were recorded. Tuberculosis accounted for 40,387 deaths: males, 22,234, females, 18,753 The figure for males is the lowest recorded during the present century except that of 22,035 in 1923, and that for females is, without exception, considerably the lowest. Deaths from cancer in 1925 numbered 51,939 males, 24,002; females, 27,937. These numbers are the highest yet recorded Of the total deaths, 40,832 were referred to carcinoma, 2,729 to sarcoma, and 8,378 to cancer. Increase of cancer mortality continues to be much more rapid for males than for females. Since 1911-1914 the increases in the standardized rates have been as follows: males, 13 per cent; females, 2 per cent; both sexes, 6 per cent.

Quarrymen and Tuberculosis: Injurious Slate Dust

A report by Dr. T. W. Wade of the Welsh board of health on an investigation made by him into the high mortality rate from tuberculosis of the respiratory system among slate quarrymen and slate workers in the Gwyrfai district of Caernarvonshire has just been issued by the ministry of health. While the investigations were confined to one district, the conclusions arrived at apply to the whole of the Welsh slate bearing areas. It has been thought that the high rate of tuberculosis among the quarrymen of North Wales is mainly due to poor feeding, particularly to excessive tea drinking. The report recognizes diet as having played a part in the causation of the high death rate. But with regard to the slate workers, the problem of prevention of lung disease among them, arising out of their occupation, is the dust problem. The Gwyrfai district has always suffered a high death rate from tuberculosis of the respiratory system. In the quinquennium 1909-1913 it was 1.88 per thousand of the population for males and 1.43 for females, as compared with 1.19 males and 0.89 for females for England and Wales. During the period 1921-1925 the rate rose to 2.16 for males in the Gwyrfai area, as compared with a decrease to 0.91 for the whole country. From 35 years and onward, and particularly in the later periods of life, the mortality rates are much higher among the "quarriers and slate workers" than among the rest of the male population. The rockmen, who are the slate getters, work in the open and are exposed to all weathers. The splitters and dressers work in sheds, which are not overcrowded but artificial means of ventilation are not employed. The splitters and dressers as a rule sit on the floor, which is covered with slate debris and dust. While the men engaged in the quarries are not subjected to much slate dust, the men in the sheds are constantly inhaling it. From long contact the clothes of the workers in the sheds are saturated with slate dust. The floors of the sheds are covered with dust, and the ledges and beams even to a height of 20 feet or more from the ground are covered on their upper surfaces with fine dust to a depth of half an inch. Currents of air and vibration from the machinery keep the dust floating in the atmosphere. Quartz formed 35 per cent of the whole, and particles of this substance from 1 to 5 microns in diameter were plentiful. Mica and chlorite formed the bulk of the remainder, mica predominating. Dr. Wade concludes that the workers in the slate sheds are subject to an injurious dust. How to eliminate this dust from the atmosphere breathed by the workpeople is a matter mainly for technical advisers.

Pharmacists as Bacteriologists, Pathologists and Roentgen-Ray Operators

Important changes in the training of pharmacists in order that they may be qualified to work as bacteriologists, pathologists and roentgen-ray operators were advocated at the opening of the British Pharmaceutical Conference by Dr. J. H. Burn, director of the pharmacologic laboratory of the society. He said that there had been a great development of the methods of discovering the nature of disease and of curing disease during the past thirty years, but in many ways the practice of the physician had not been altered to any great extent, and the benefits of the medical discoveries had not in the main been made available to the general public. This was due to the fact that each new discovery involved a new technical method. These methods were now so numerous that it was impossible to teach them to the medical student while he was taking his course, and they took so much time that a physician could not apply them. A medical consultant often formed his opinion of the condition of a patient as the result of roentgen ray, blood, bacteriologic and perhaps other examinations. The general practitioner had none of these aids. Was there not there an opening for the pharmacist? All these examinations depended on the tests, which offered no more difficulties than did such chemical processes as the pharmacist at present learned. But if they were to be carried out so as to be of value, they demanded a thorough training. The pharmacists' training should include a course in bacteriology and pathology and the use of roentgen-ray apparatus.

Epidemic Encephalitis

During the past five years nearly 5,000 persons have died in England and Wales of epidemic encephalitis. During the same period 11,420 cases of the disease have been notified, so that nearly half of all those stricken by epidemic encephalitis in this country have succumbed. There were 2,267 fresh notifications in 1926, 2,635 in 1925, 5,039 in 1924, 1,025 in 1923 and 454 in 1922. The epidemic wave, which reached its highest point in 1924, has therefore by no means subsided, though it has been reduced in magnitude. As stated in a previous letter, the London County Council has provided a treatment center for patients who have partially recovered, an effort which has already yielded valuable additions to the knowledge about the disease. But Dr. A. F. Tredgold, an expert on mental deficiency, has pointed out that it is urgently necessary to provide an institution where all child victims of epidemic encephalitis whose minds have been unbalanced may receive continuous and special treatment. The medical officer of Brixton prison confirmed this and in his report says: "We have had one or two postencephalitis delinquents who resemble congenital defectives in their mental characteristics. Those cases are, apparently, hopeless, and it is feared that their number will increase unless some method of curing or protecting against [the disease] is discovered."

The Therapeutic Substances Act

The Therapeutic Substances Act will soon come into force. The regulations are very stringent. The therapeutic substances to which the act applies cannot be manufactured for sale without a license. Applicants have to satisfy the licensing authority that they will observe various conditions in respect of adequate staff, premises and plant, proper testing facilities, the keeping of permanent records, inspection, reports and samples. A therapeutic substance advertised or sold as a proprietary medicine or contained in a medicine so advertised or sold must be sold sealed in a previously sterilized glass container, so as to preclude access of bacteria. The label of the container must show the name of the substance, the name and address of the manufacturer, the number of his license, a distinctive batch number, the date on which the manufacture of the batch was completed, and the nature and percentage of any added antiseptic. The label must further contain, where required, statements of minimum potency and maximum toxicity; in such cases the label must specify the date up to which the substance may be expected to retain the required potency or not to develop an excessive toxicity as the case may be, and there must be a statement of the precautions necessary for preserving the properties of the contents until that date. Sale after that date is prohibited. Schedules to the regulations prescribe the standards of strength, quality and purity in respect of the various substances. Provision is made for testing strength, quality, sterility and freedom from abnormal toxicity for dealing with samples, and for preparing and using mediums. A licensee is allowed to issue a therapeutic substance to physicians in emergency, though he does not have any filled containers in stock, but here there are careful safeguards.

PARIS

(From Our Regular Correspondent)

July 6, 1927.

Pulmonary Tuberculosis as a Sequela of War Gas Injuries

Those injured by war gas have formed societies which demand pensions of the same amount as those received by the tuberculous, on the ground that their cases are similar and that tuberculosis is sure to develop in them Professor Achard and Professor Sergent have stated that the war gassed are no more likely to develop tuberculosis than are ordinary subjects As a result, they have been made the object of unpleasant personal manifestations on the part of the societies Sergent has recently taken up the question again before the academy, basing his remarks on his more recent experience as well Since 1919, Sergent has admitted to his hospital service forty-eight patients who had been previously gassed Among these, twenty-two bearers of significant respiratory sequelae did not show any signs of tuberculosis Twenty-six of them were tuberculous, but the gas injuries that they had received were only slight and did not necessitate their evacuation by ambulance In twenty four of the latter, the first manifestations of tuberculosis did not appear until from three to eight years after the infliction of the slight gas injuries, nor did they (except in six cases) present in the interval any disturbances indicating a sequela Those who received a heavy dose of war gas are more likely to develop other respiratory diseases than tuberculosis However, the differential diagnosis in these cases is difficult Sergent, in conclusion, suggested that the government grant pensions, in amounts equal to those received by the tuberculous, to persons suffering from grave effects of mustard gas, for such patients have a lung disease that is practically incurable, while their general situation is much more wretched than that of most tuberculous persons, for they are unable to do any regular work, and yet their condition does not justify assigning them to antituberculosis sanatoriums.

Social Insurance Legislation

The Syndicat des medecins de la Seine has had printed 60,000 copies of a circular in which it affirms that the physician is not hostile to the principle of social insurance, but only desires to point out the disadvantages sure to result for the public from such a system of collective state medicine as is proposed It is inadequate for the insured and debasing for the dignity and morale of the medical profession, as has been proved in countries that have adopted the system The *syndicat* demands that, at least, the insured shall be left free to choose the practitioner he wishes to treat him, and that he be permitted to pay directly to the physician the established fees, without interposition of a health insurance society, which would give rise to regulations administered by an army of expensive and caviling functionaries, and lead to political abuses of all kinds and to constant discussions and bickerings The circular of the *syndicat* suggests further that the insured patient deal directly with his physician, and that the health insurance society reimburse him for his outlay for medical attendance and medicine

Medical Consultations by Wireless at Sea

Following the example of the United States, wireless medical consultations at sea are beginning to be adopted by French boats as well It has been suggested furthermore that receiving stations be established in hospitals along the seashore, in order to complete the organization of this special type of service At a recent conference of Red Cross societies held in Oslo, Norway, questions connected with this means of succoring the sick and wounded in time of peace were discussed One important reason for consultation by wireless is to secure information relative to quarantine regulations in the port of destination

Crusade Against Alcoholism in the French Colonies of Africa

A decree dated June 18 1927, prohibits in French Equatorial Africa the consumption (or the holding in possession with a view of consumption), by the natives, of any distilled beverages, or of other beverages containing more than 14 per cent alcohol Supplying the natives with beverages thus prohibited is a misdemeanor entailing severe penalties The object of the decree is to eliminate the abuse of alcohol which is a constant cause of disease, of weakening of resistance to climatic conditions and to regional epidemics, and, finally, of an increased mortality among native workmen

BELGIUM

(From Our Regular Correspondent)

June 1, 1927

The Superior Council of Colonial Hygiene

A royal decree has created a superior council of colonial hygiene which will have its seat in Belgium The duties of the council will be (1) to investigate everything that will contribute to the progress of hygiene in the Belgian Congo and to formulate in that connection such proposals as it deems advisable, and (2) to give its opinion on questions of a sanitary and hygienic nature that may be submitted to it by the minister for the colonies The members of the council perform their duties without compensation

The Crusade Against Measles

It is an accepted fact that measles in a child can be prevented or rendered mild by the injection of blood serum from measles convalescents The city of Brussels has created a service at which this method of prophylaxis is given free of charge When a practitioner applies to this service, the physician in charge will inquire into the case, and will usually accompany the practitioner to the family in question and proceed with the immunization of the children

A Demonstration of Public Health Work

In a previous letter, reference was made to the special demonstration of health work that the Red Cross undertook in Jumet The city was organized as a health center, which comprised a service of visiting nurses, a consultation center for future mothers, a consultation center for infant care, a free milk depot, a service of school medical inspection, an antituberculosis dispensary, a dispensary for combating venereal disease, a dispensary for mental hygiene, and a service of dental hygiene Of the 30,000 inhabitants of Jumet about 6,000 participated in the event This result was secured at a cost that did not exceed 3 francs per inhabitant for the whole year, and without causing any disturbance of the relations of the physicians to their clientele

Creation of a Medical Argus

The Federation medicale belge which is constituted by the union of all the medical societies of Belgium, has opened a new section in the monthly bulletin that it publishes The department will publish all that appears in the political press that has a special interest for physicians The object of the innovation is to keep the medical profession abreast of all controversies and to centralize the publication of documents of importance particularly with regard to conflicts with the mutual aid societies

Penetrating Telecurietherapy

Dr Cheval has communicated to the Academie royale de medecine a form of telecurietherapy so called, by means of which he can irradiate two patients at the same time with

4 Gm. of radium distributed over an area of 16 sq. cm. One patient is placed above the radium and the other is stationed below, their bodies being arranged crosswise with relation to each other. Heretofore he has hesitated to publish any results lest they might prove premature; but he has reached the conclusion that it is feasible to irradiate with heavy external doses patients with deep-lying tumors, provided one has a sufficient quantity of radium suitably filtered and the rays are localized by a sufficient quantity of lead (8 cm. at least) to prevent all action in any other direction than that desired. The radium must be placed at a proper distance from the skin. The organism will endure enormously large doses of ultrapenetrating rays without the general condition of the patient being injured. As a complement to Cheval's communication, Dr. Dustin has published a series of researches on the radiobiologic aspects of epitheliomas of the cervix of the uterus treated by telecurietherapy.

Medical Investigation of Safety Methods Applicable to Common Carriers

At the Institut des hautes études de Belgique, Dr. Sollier delivered an address recently on the influence of physicians in the introduction of safety methods applicable to common carriers. The institute has organized a course of instruction in psychotechnics, including all its applications to the practical work of vocational guidance.

Treatment of Pernicious Anemia

In a communication presented to the Academy of Medicine, M. Lemaire reported his results in ten cases of pernicious anemia in which the Minot and Murphy treatment was employed, a regimen characterized chiefly by the use of liver and fruits. The condition of the patients improved rapidly in every instance. The disappearance of fatigue and drowsiness and the return of strength ran parallel to the marked increase in erythrocytes, the average gain in red blood corpuscles, during the first month, having been two million.

Red Cross Propaganda

At the instance of the Red Cross Society of Belgium, a stationers' supply company has prepared a collection of forty different covers for school tablets, setting forth the various activities of the Red Cross—its main purposes, its public health maxims, first aid in case of accident, civic education in health problems, and the scope of the work of Red Cross nurses.

MADRID

(From Our Regular Correspondent)

July 6, 1927.

Vindication of Marañón

Dr. Marañón was hardly out of jail, where he had been thrown for holding opinions contrary to those of the present government, when he was called to the royal palace to see a patient by special request of the queen dowager. Soon after hearings were held in his case, and at the first session the army court held that Marañón was absolutely free from guilt. In a previous letter mention was made of the fact that Dr. Marañón had already paid the 100,000 pesetas ($17,000) fine visited on him, regardless of the outcome of the court proceedings.

A Physician's Gift to the Home for Physicians' Orphans

The Prince of Asturias College, i. e., the home of physicians' orphans, has received a gift from a Madrid physician, Dr. Felipe Cea. Most of his fortune, namely, 617,000 pesetas (over $107,000) was willed for this purpose. Dr. Cortezo, chairman of the board of trustees, is planning to erect a new building which will enable the institution to care for 200 boys. In addition the orphanage at Pinto will continue receiving girls. The law compels local medical societies to contribute to the support of the home in exchange for their privilege of filling vacancies among the inmates. Among the many difficulties facing Spanish physicians—an increasing surplus in the profession, competition on the part of the government through free dispensaries and stations, and finally increased taxes and high cost of living—the physicians can at last see a ray of light, not precisely for themselves, but for their orphans, if these succeed in getting one of the three hundred places at the home.

A Physician in the Academy of Letters

In the Academy of Letters, the supreme court as regards the Spanish languge, three physicians sit at present: Cortezo, Cajal, and now the Count of Gimeno. The audience included on his reception writers, artists, singers, musicians and a few physicians. The subject of his speech was, "Metaphors and Similes in Scientific Literature." His long teaching experience has convinced the Count of Gimeno that those aiming at success in writing must either couch old ideas in a different way or find a common term which, combined with the old one, will give it more force and light. Comparison teaches, and when similitude embodies a superior form of expression, the simile not only teaches but attracts and charms. The secret lies in delicate feeling, masterful execution, a certain innate good taste, study and work and polish. Dr. Gimeno is the only living Spaniard belonging to the four existing royal Academies of Medicine, Fine Arts, Physical Sciences and Letters. He has been a member of the cabinet as often as he has wished to be, in addition to holding a chair in the Madrid medical school.

Death of Dr. Cardenal

Dr. Salvador Cardenal of Barcelona has died at the age of 74. He had long been the first surgical personality in Spain. Although he never was on the staff of any teaching institution, the Barcelona medical school appointed him an honorary professor on the occasion of the fiftieth anniversary of his graduation. In addition to introducing in Spain first antiseptic surgery and then aseptic methods, he was an able operator and even more an unusually skilful diagnostician.

Tribute to Cortezo

Dr. C. E. Cortezo, editor of *El Siglo Médico*, president of the National Academy of Medicine and of the Privy Council, attended recently the congress of the Latin medical press. During his stay in Paris the General Association of Students honored him with an appointment as Eternal Student *amoris causa.*

Biochemical Study of Cancer

Dr. Martinez Nevot, chief of the chemical section of the Cancer Institute, gave a lecture at the National Academy of Medicine on chemical changes in the blood of patients with cancer who have been treated with roentgen rays. His research may be summarized as follows: Blood dilution increases, as shown by Bernhardt, Voltz and Schlagintweit; blood sedimentation speed also increases; as to nitrogenous substances, those having large molecules increase with the exception of fibrinogen, and those having small molecules, and especially urea, decrease; Ehrlich's diazo-reaction becomes positive, thus proving that roentgen rays exert a catabolizing action on nitrogenous bodies in the blood as well as facilitating their renal discharge; sugar decreases in a high percentage of cases and roentgenkater becomes worse as the blood sugar increases; the case showing the largest decrease in sugar was of cancer of the parotid which is important in view of the analogous function of this gland and the pancreas; chlorides first increase in the blood and decrease in the urine, but they also increase in the latter after a few hours; the decrease of the alkali reserve, invariable in all patients with cancer, becomes even more marked after irradiation; the p_H also shows decrease.

Active Campaign Against Cancer

The Spanish League Against Cancer is carrying out an active campaign. After the conclusion of a series of lectures at the National Academy of Medicine, the league held an imposing meeting in the assembly room of the Cancer Institute attended by the whole royal family, the court and all the government officials. Dr. F. Aguilar, the general secretary, read a report on the activities of the league in the educational, curative and experimental fields. He also praised the interest Queen Victoria had taken in its work and referred to the organization of similar bodies in the provinces. Dr. Badelin brought greetings from the French League Against Cancer. Dr. Goyanes, the director of the institute, stressed the importance of the establishment of a biologic cancer research laboratory and a pavilion for inoperable cancer cases. Immediately afterward, the cornerstones of these two buildings were laid.

PRAGUE

(From Our Regular Correspondent)

July 1, 1927.

Sickness Insurance and Venereal Disease Stations

The question of consulting stations for venereal patients has been discussed lately on several occasions. The discussion was provoked by the growth of sickness insurance and the old age and invalidity insurance which were added to the insurance scheme of the country last year. The sickness insurance system does not fulfil its task in the handling of venereal patients. Venereal patients fear that, under the sickness insurance system, records might make their malady a matter of public knowledge. The insurance bodies themselves do not care to undertake the expense of treating venereal patients, especially patients with syphilis. The insurance societies maintain, furthermore, that it is not their task to treat a patient in order to prevent a manifestation of his sickness which may occur after long years when very likely he will belong to another society, if he is insured at all. With invalidity insurance having come into effect, the situation is very different because it is a whole state institution to which practically all the wage earners are subjected. The interest of invalidity insurance lies primarily in the proper treatment of syphilis. That is the point at which the consulting stations for venereal patients come into the scheme. They are conceived not as institutions for treatment of venereal patients but as organizations which shall supervise the efficiency and length of the treatment. The collaboration of invalidity insurance with the public health authorities is recommended. Thus the provision of treatment through the insurance system can be supplemented from the public funds. The stations would serve also to educate the public on the dangers of venereal diseases and to discover sources of venereal infections.

Congress of Slavic Physicians

The first Congress of Slavic Physicians was held in Warsaw, May 26-29. In Prague, in 1901, Drs. J. Semerad and M. Pesina interested some Polish and Jugoslav physicians in a so-called Union of Slavic Physicians. The Slavic committee, which was formed at that time, was handicapped by the contemporary political situation. After the World War most of the Slavic nations had attained political independence. Therefore, at meetings held in 1925 in Dubrovnik, in 1926 in Belgrade and finally in Prague, a solid foundation for the organization was laid. While the prewar activities of the committee had a considerable political flavor, at the Warsaw congress the political element did not appear. The union, it seems, has found its object entirely in the scientific and professional field. The attendance at the congress was imposing: 300 from Poland, sixty-eight from Czechoslovakia, forty from Jugoslavia, fifteen from Bulgaria; and some representatives of the Russian and Ukranian emigration. The soviet Russian physicians did not participate although an invitation was extended to them. The presiding officer of the congress was Prof. A. Gluzinski of Warsaw. The proceedings of the congress were divided into three sections. The first topic was infectious scleroma. This malady is almost entirely confined to Slavic countries. It appeared from the papers presented that the disease is on the increase and therefore intensification of research is indicated. The papers brought together a material that is unique in medical literature. The second topic was prophylactic measures against scarlet fever, which disease has had an important mortality in eastern Europe since the World War. At the third session of the congress, the form of public health administration best suited to Slavic countries was discussed. At this point the German system, which emphasizes police power, and the English system, which is concerned chiefly with the education of the individual, were compared and the Anglo-Saxon system was found more suited to Slavic nations than the German system. The next congress will be held in Prague in 1928 in connection with the sixth Congress of Czechoslovak Biologists and Physicians. The by-product of the Warsaw congress is the organization of the Federation of Slavic Dermatologists. The Union of Slavic Physicians now can be considered a permanent institution.

Public Health Association

Recently the Czechoslovak Public Health Association was reorganized into an active body. A similar organization was founded in 1896 in Prague. In 1902 the association was merged with another society which originated from the Prague Medical Faculty. The activities of this resultant society practically ceased with the outbreak of the World War and could not be revived immediately after the war. With normal conditions returning to the country the need was felt for a medium where the progress of public health could be followed and national policies in public health questions framed. For this purpose the old society has been revived. A new executive committee was given the task of remodeling the present statutes and by-laws according to modern needs. The statutes and by-laws of the American Public Health Association will be taken as a model. Dr. F. Prochazka, professor of social medicine at the Medical Faculty of Prague, was elected chairman of the association.

Lupus

The results of an investigation on the prevalence of lupus in Czechoslovakia have been published recently by Dr. H. Pelc of the state institute of public health. The material for the study has been collected on individual cards through the local health officers, who serve in Czechoslovakia an administrative unit of some 6,000 inhabitants. Because the health officers are under state control, their participation in the reporting was almost complete. On the whole, 1,611 cases of lupus have been reported for the whole country. This makes a rate of 11.5 cases per hundred thousand inhabitants. If the possible sources of inaccuracies are taken into consideration (mainly unrecognized cases and those which are unknown to the health officers on account of far distant place of residence) the actual number of cases in the whole country can be estimated at about 3,000, which would make a rate of about 25 per hundred thousand. In the study, the main epidemiologic characteristics of the disease were analyzed. The world's literature covering the subject has been reviewed and the striking fact revealed that the low incidence of this malady in the United States and England cannot be explained on the basis of the evidence now available. The United States is recommended as a ground for the study of the racial factors that might be involved because there is no other place in the world where more ideal conditions for a similar study could be obtained.

Nonnenbruch Called to Prague

Prof. E. Nonnenbruch has been called to the chair of internal medicine at the Prague German Medical Faculty. This is one of the most important chairs in the faculty, owing to the high reputation which it has attained through the work of Professor Jaksch-Wartenhorst, who is retiring from his position as chief of clinic. Professor Nonnenbruch comes from Germany and has been, up to the present time, the chief of the municipal hospital in Frankfort.

BERLIN

(From Our Regular Correspondent)

July 2, 1927.

The Excess Mortality of Men over Women in the Older Age Groups

Professor Silbergleit has found that, for Germany, the probability of a male stillbirth is 0.0342, and of a female stillbirth is 0.0294, or, in other words, that the probability that a male child will be born dead is 16.7 per cent, or one sixth, greater than for a female child. Whether this is due to the fact that the male fetus is larger, on the average, than the female fetus, only the biologist can decide. Utilizing the mortuary tables for 1910-1911, Silbergleit has found greater mortality of males, as compared with females, during early childhood and again in the 40-70 age groups. Although at certain periods of life females are exposed to greater hazards than their brothers of the same age group, the effects on the general average are only slight. The excess mortality of males during the first year of life amounts to 18.6 per cent of the mortality for females. In the second year of life, the excess mortality drops to 4.2 per cent, and in the 10-15 age groups the death rate is 7.1 per cent less than that of the corresponding groups of females, and almost the identical observation is made for the 25-35 age groups. In males of the three decades 40-70 the excess mortality is 32.9, 37.7 and 18.5 per cent, respectively, because of the greater hazards incurred by males with respect to tuberculosis, pneumonia, diseases of the respiratory organs in general; diseases of the digestive apparatus, the organs of circulation, and the urinary organs; diseases due to alcoholism; accidents, and suicide. The mortality for persons living in wedlock was considerably lower in the 30-70 age groups than for single persons and for the widowed and divorced, but this advantage was much more marked in men than in women.

Increase of Mental Disease in the Rhine Province

The number of mentally ill patients, idiots and epileptics being cared for by the Rheinische Landesfürsorgeverband has increased from 13,098, as of April 1, 1925, to 14,407, as of March 31, 1926. This makes an increase of 1,309 patients as compared with an increase of 879 in the fiscal year 1924-1925 and of 726 in the fiscal year 1923-1924.

The Cause of Last Year's Typhoid Epidemic in Hanover

Experts were not agreed as to the cause of the typhoid epidemic which broke out in Hanover last fall and which, in a population of 420,000, resulted in 2,423 cases and 282 deaths. The subject came up for discussion, recently, at a meeting of the Berliner Medizinische Gesellschaft.

Martin Hahn, professor of hygiene, of Berlin, pointed out that, whereas the morbidity figures for men and women in the 1-50 age groups were practically identical, in persons more than 50 years of age women predominated. He thought that the lower morbidity in men over 50 might be due to the fact that many of them were inoculated against typhoid during the war. The typhoid epidemic was preceded, from August 20 to 25, by mild intestinal disorders, which affected from 30,000 to 40,000 persons, in whom neither typhoid nor paratyphoid bacilli were found. Similar manifestations (so-called water sickness) have preceded typhoid epidemics in other localities (America). In Hanover, the water supplied by the Ricklinger water works had become contaminated. The water tasted of phenol (carbolic acid) and the bacterial count had increased, from 10, to 50 per 5,000 liters of water. The epidemic developed suddenly. Numerous secondary or contact infections followed later. In view of the rapid progress of the epidemic, the infective material must have been carried to all the early victims at about the same time. Ruling out other possible sources of infection, only the water remained. It is a difficult matter to find typhoid bacilli in the water, nor were they found in this instance. No strictly logical proof for the water-borne infection can be adduced, but there is considerable indicative evidence. The first cases developed in districts to which water from the Ricklinger works was supplied, and the population that was supplied by the Ricklinger works was relatively the hardest hit. The water from these water-works was below standard, for not only surface water but also river water had been admixed. The possibility of contamination by unfiltered river water was also proved by experiments. That the river water was contaminated with typhoid bacilli became at least very probable from the fact that, above Hanover, on the Leine, there were towns in which numerous cases of typhoid had occurred and which emptied their sewage into the Leine without processing. Since 1925, the water supplied by the Ricklinger works has been chlorinated. The chlorination, however, has not been adequate, because of the tendency to add as little chlorine as possible, and because, owing to the entrance of organic substances, the chlorine had entered into combination, to a great extent, so that there was not sufficient free chlorine to kill the bacilli. Hahn has therefore worked out a method that makes it possible for any one, though not a chemist, to determine whether or not water contains a sufficient amount of chlorine.

Professor Jürgens, who is connected with the Urban Hospital and who was active in Hanover during the epidemic, expressed his doubts as to water infection having been the cause of the epidemic. He sought to prove that the epidemic developed gradually and that the fact that so many persons were taken ill in a short time was due to individual circumstances. Jürgens is of the opinion that we know nothing at all about the causes of the epidemic. In combating typhoid, greater stress must be placed on prophylaxis, and there must be better cooperation between health officers and practicing physicians. At present, some health officers seem to regard the combating of typhoid as a final end in itself and thus are inclined to neglect the treatment of patients. In Hanover, the contagion psychosis caused more economic damage than the epidemic itself.

Whereas Professor Neufeld of the Institute for Infectious Diseases agreed absolutely with Professor Hahn, and emphasized that infections develop only through gross negligence and uncleanliness, which pointed to the need of launching educational campaigns among the school children, Professor Friedberger of the Institut für Immunitätsforschung und Hygiene in Dahlem expressed the belief that typhoid never develops suddenly but matures gradually, and, in the fall, when the conditions are favorable, leads to cases of illness. The most important causes are the social conditions. He referred, as cases in point, to the cholera epidemic in Hamburg and to the records of tuberculosis mortality, in both of which the poorer classes were chiefly affected.

Marriages

Arthur Hobart Conley to Miss Josephine Marie Hay, both of Chicago, July 20, at Montreal, Que, Canada

Isaac Long Harshbarger Rochester, Minn, to Miss Gertrude Ackerman of Mankato June 30

Edward S Murphy, Glendive, Mont, to Miss Edith E Bartsch of Brainerd, Minn, June 15

Floyd Victor Efferding, Dubuque, Iowa, to Miss Eleanor Wivagg of Glencoe, Ill, August 2

Charles Spiva to Miss Sadie Genesky, both of New Bedford, Mass, June 19

Gustav Edlund, Jr, to Miss Helen V Loberg, both of St Paul, in June

Edward A Regner to Miss Mary C Hoy, both of Minneapolis, June 15

William Gordon to Miss Lillian Goldstein, both of Philadelphia, June 28

Robert W Elworthy to Miss Florence Hediger, both of Chicago, June 9

Pol Coryllos to Miss Lois A Ralli, both of New York, July 23

Deaths

J. Orley Stranahan ⊕ Fort Lauderdale, Fla, Syracuse (N Y) University College of Medicine, 1896, member of the Associated Anesthetists of the United States and Canada, Spanish-American War veteran, formerly president of the board of health and board of education of Rome, N Y, at one time part owner and chief of the medical staff of the Rome Infirmary, on the staff of the Memorial Hospital, aged 55, died, July 9, at Richmond, Va, following an operation

Thomas Edwin Wright, Monroe, La, Medical Department of the Tulane University of Louisiana, New Orleans, 1909, member of the Louisiana State Medical Association, formerly sanitary inspector, state board of health, New Orleans, on the staff of St Francis' Sanitarium, aged 51, died, July 5, of heart disease

Malcolm Montgomery Crocker, Lordsburg, N M Rush Medical College, Chicago, 1887, member of the New Mexico Medical Society, county health officer, served during the World War, on the staffs of the De Moss and Lordsburg hospitals, aged 63, died, May 17, of perforated duodenal ulcer

Joseph Leon Gunter, Albany, Ala, Memphis Hospital Medical College, 1894, member of the Medical Association of the State of Alabama, formerly secretary of the Morgan County Medical Society, on the staff of the Benevolent Society Hospital, aged 55, died, July 5, of cerebral hemorrhage

Ernest Lee Dameron, Star, N C, North Carolina Medical College, Charlotte, 1911, member of the Medical Society of the State of North Carolina, served in France during the World War, aged 43, was killed, July 9, when the automobile in which he was driving was struck by a train

George Washington Stewart, Philadelphia, Hahnemann Medical College of Philadelphia, 1883, formerly professor of the history of medicine at his alma mater, one of the founders and at one time on the staff of St Luke's Hospital, aged 65, died, July 13, of intestinal obstruction

Jacob S. Wheeler, Prosperity, S C, Medical Department of the Tulane University of Louisiana, New Orleans, 1898, member of the South Carolina Medical Association member of the school board, and for many years mayor of Prosperity, aged 54, died, July 8, of cardiorenal disease

Francis Thomas Duffy, Troy, N Y, Albany Medical College, 1915, member of the Medical Society of the State of New York, on the staff of the Troy Hospital, served during the World War aged 33, died, July 18, at a local hospital, following an operation for appendicitis

Samplet Edgar Webb, Draper, N C, University of North Carolina School of Medicine, Chapel Hill, 1908, member of the Medical Society of the State of North Carolina and Medical Society of Virginia, aged 48, died, July 7, of a bullet wound, presumably self inflicted

John Hill Holbrook, Sulphur Springs, Texas, University of Louisville (Ky) School of Medicine, 1898, member of the State Medical Association of Texas, aged 56, died July 7, at the Baylor Hospital, Dallas, following an operation for carcinoma of the pancreas

Leander H. Morphew, Stuttgart, Ark, Keokuk (Iowa) Medical College, 1891, member of the Arkansas Medical Society, formerly mayor, and member of the city council at one time president of the school board, aged 68, died, June 16, of heart disease

Frank D. Carson, Holmesville, Ohio Western Reserve University School of Medicine, Cleveland 1885, member of the Ohio State Medical Association, past president of the Holmes County Medical Society, aged 68, died, June 30, of heart disease

Mortimer Gilbert Burford ⊕ Brooklyn, Columbia University College of Physicians and Surgeons New York, 1903 aged 50 died suddenly, July 16, at the Carson C Peck Memorial Hospital, of chronic myocarditis and coronary sclerosis

Samuel Clifford Cox, Fort Bayard, N M, George Washington University Medical School Washington, D C 1892, served in the U S Veterans' Bureau, veteran of the Spanish-American and World wars, aged 59, died, July 9, of heart disease

Walter Harry Waterbury, Dolgeville, N Y, Albany Medical College 1909, member of the Medical Society of the State of New York, aged 41, died, June 11, at the Memorial Hospital, Utica, of acute nephritis and arteriosclerosis

George Waverley Clark, San Francisco, University of California Medical School, San Francisco, 1894 aged 62, died, June 13 at the U S Marine Hospital, number 19, of hypostatic pneumonia and cerebral hemorrhage

Adalbert B Berk ⊕ New York, University of Vienna, Austria, 1887, formerly on the staff of the Mount Sinai Hospital aged 62, died July 18 at San Francisco, of coronary sclerosis and valvular heart disease

Frederic Waldo Whitney, New York Dartmouth Medical School, Hanover, 1882, aged 73 died May 17, at the Bellevue Hospital, following a fracture of the thigh received when knocked over by escaping thieves

Francis Wharton Blake ⊕ Gambier, Ohio Columbus Medical College, 1883, secretary and past president of the Knox County Medical Society, aged 68, died, in May, at a hospital in Mount Vernon, of pneumonia

Asa Norman Jones, Reedsburg Wis Rush Medical College, Chicago, 1890 member of the State Medical Society of Wisconsin aged 63, died, May 13, at a local hospital, of cholecystitis and pancreatitis

Ernest Victor Gustuson ⊕ Fargo N D, Chicago College of Medicine and Surgery, 1909 on the staff of St Luke's Hospital, aged 48, died, July 13 at Fair Hills, Minn, of cerebral hemorrhage

Wallace Nelson Shaw ⊕ Freeport Texas University of the South Medical Department Sewanee 1894, served during the World War aged 54, died, March 29, at St Joseph's Infirmary Houston

Bernard Patrick Quain ⊕ Oswego N Y McGill University Faculty of Medicine, Montreal Que Canada 1904 on the staff of the Oswego Hospital, aged 54 died, July 7, of lobar pneumonia

Camillus P Carrico, Elkton Md University of Maryland School of Medicine Baltimore 1898, member of the Medical and Chirurgical Faculty of Maryland, aged 60 died, July 8, of heart disease

Frank Osburn Risher, Shell Lake, Wis McGill University Faculty of Medicine, Montreal Que Canada 1906, aged 47 died in July, at the Island City Hospital, Cumberland, of heart disease

Allen Scott Hollingsworth, Goshen, Ind, Eclectic Medical Institute, Cincinnati, 1887, member of the Indiana State Medical Association, aged 63, died suddenly, July 10, of heart disease

Charles F. Chandler, Philadelphia, Medico Chirurgical College of Philadelphia 1891 member of the Medical Society of the State of Pennsylvania, aged 57, died, July 12, of heart disease

Norman W. Hollenbeck, Milwaukee, Wisconsin College of Physicians and Surgeons, Milwaukee, 1904 member of the State Medical Society of Wisconsin, aged 52, hanged himself, June 23

Samuel Marion France, Midvale Ohio Eclectic Medical Institute, Cincinnati, 1894, member of the Ohio State Medical Association, aged 68, was drowned, in Lake Erie, July 13

Roy J Pelton, Detroit, University of Michigan Homeopathic Medical School, Ann Arbor, 1902, aged 49, died, in July, at his summer home in Deer Lake, Mich., of cerebral hemorrhage.

Samuel U. Harshberger, Port Matilda, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1882, aged 76, died, July 4, at a hospital in Philipsburg, following an operation.

Felix Villamil, Florida, N. Y.; University of Maryland School of Medicine, Baltimore, 1903, member of the Medical Society of the State of New York, aged 50, died, in July.

William S Anderson, Wilson, N. C. (licensed North Carolina 1885), member of the Medical Society of the State of North Carolina, aged 82, died, July 4, of chronic myocarditis.

James Marion Dillon ⊕ Alhambra, Calif.; St. Louis University School of Medicine, 1906; on the staff of the Alhambra Hospital, aged 52, died, June 28, of heart disease.

James Louis Proudfoot, Athens, Tenn.; College of Physicians and Surgeons, Keokuk, 1879, member of the Tennessee State Medical Association, aged 69, died, June 26.

Benjamin C Stewart ⊕ Opp, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1900, formerly mayor of Opp, aged 51, died, June 19, of angina pectoris.

Frank B Hawkins, Shelbyville, Ky.; Louisville National Medical College, Medical Department State University, Louisville, 1906, aged 57, died, July 4.

Charles Morgan Woolley, Sopchoppy, Fla.; University of Alabama School of Medicine, Tuscaloosa, 1893, also a druggist, aged 55, died suddenly, May 30.

Hugo Blum ⊕ New York; Columbia University College of Physicians and Surgeons, New York, 1909, aged 41, died, July 17, of carcinoma of the intestine.

James Robert Davis, Silver City, N. M.; Northwestern University Medical School, Chicago, 1912, served during the World War, aged 42, died, July 15.

George Ethel Johnson, Dayton, Tenn.; Memphis Hospital Medical College, 1911, aged 42, died, June 8, of injuries received in an automobile accident.

Chester Emerson Campbell ⊕ Niagara Falls, N. Y.; Ohio Medical University, Columbus, 1898, aged 74, died, July 21, of progressive muscular atrophy.

Elmer Allen Leisure ⊕ Slater, Mo.; Chicago College of Medicine and Surgery, 1913, served during the World War, aged 45, died suddenly, July 2.

Joseph William Weis, Manchester, Ill.; Hahnemann Medical College and Hospital, Chicago, 1872, aged 77, died, July 3, of cerebral hemorrhage.

George S Roach, Ludowici, Ga.; University of Georgia Medical Department, Augusta, 1900, aged 71, died, June 5, at a hospital in Savannah.

James Thomas Dixon ⊕ Owensboro, Ky.; Missouri Medical College, St. Louis, 1894, aged 56, died suddenly, July 15, of cerebral hemorrhage.

Harry C Hunzelman ⊕ Woodward, Iowa; State University of Iowa College of Medicine, Iowa City, 1921, aged 33, died, July 8, of pneumonia.

Climena Serviss, Chicago; Hahnemann Medical College and Hospital, Chicago, 1896, aged 73, died, July 2, of chronic myocarditis.

John Rossman, Schenectady, N. Y.; Philadelphia University of Medicine and Surgery, 1868, aged 80, died, June 24, of angina pectoris.

Willis Linn ⊕ Rochester, N. Y.; University of Maryland School of Medicine, Baltimore, 1911, aged 38, died, April 29, at Garrison, Ky.

William P Ford, Boonville, Ind.; University of Louisville (Ky.) School of Medicine, 1894, aged 67, died, July 6, of angina pectoris.

Wilfred Le Roy Huffman, Elkhart, Ind.; Detroit College of Medicine and Surgery, 1903, aged 47, died, July 5, at Los Angeles.

James Henry Abrams, Atwood, Ill.; Rush Medical College, Chicago, 1878, aged 77, died, July 2, of cerebral hemorrhage.

John Edward Buchanan, West Alexander, Pa.; Baltimore Medical College, 1905, aged 46, died, June 20, of myocarditis.

George Boehm ⊕ Marienville, Pa.; University of Pittsburgh School of Medicine, 1901, aged 54, died, July 6.

Edwin C. Thomas, Indianapolis; Indiana Medical College, Indianapolis, 1878, aged 70, died, July 3.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

J. M. HARRIS — QUACK

A "Cancer Cure" Faker in the Toils

James M Harris of Tulsa, Oklahoma, has for some years been quacking it in the "cancer cure" line. His particular fake he calls "Radium Oil." He operates not in the city of Tulsa but on a farm about two miles in the country. He is reported to do a large business.

The Supreme Court of Oklahoma has recently affirmed the judgment of the trial court that had awarded a woman $10 000 damages because Harris had treated what, at the outset, was an operable case of cancer of the breast and allowed the matter to progress until it became inoperable.

The victim was one Mary A Graham, described by the Supreme Court as a plain country woman of limited intelligence, about 62 years of age. Mrs Graham went to quack Harris in October, 1922, because she was afflicted with what she believed to be a cancerous growth of the breast. James M Harris, at that time and for some time before, had held himself out as a physician and surgeon who was able to treat and cure cancer. Harris diagnosed the case by rubbing the fingers of his left hand along the woman's arm, and then informed her that she did not have cancer but that she had a growth that would develop into cancer if it was left alone and she also had kidney trouble. He persuaded the woman to purchase two sixteen-ounce bottles filled with a reddish fluid, which Harris called "Oil of Radium." Mrs Graham paid the quack $125 for the two bottles of medicine, the contents of one bottle of which were to be rubbed on the growth and two teaspoonfuls daily of the other bottle to be taken internally.

When Mrs Graham came back three weeks later, Harris informed her that the "growth" had developed into a cancer and offered to furnish her with more of the "Oil of Radium" of a "higher specific," that would cost her $45. He told her, however, if she would wait a month, he would furnish it for nothing. Mrs Graham returned in about a month, but the quack would not even give her any attention, although his secretary gave the poor woman a bottle of medicine and advised her to come back in about a week, which she did. On this visit Harris told Mrs Graham that she was doing all right but must have more medicine, for which he demanded a check for $45. She gave the quack a check but her husband refused to allow the bank to honor it, with the result that James M Harris came to see the woman, used profane language, said that the government was backing him, and that he was worth $50,000 and would spend all of it before he would allow Graham to stop payment on the check.

Then in May, 1923, Mrs Graham brought suit against Harris for $10,000 damages on the grounds that Harris' statements and claims were false and fraudulent and made with the design to cheat and defraud her and to obtain money from her without any consideration, that Harris was not a physician or surgeon, that he had no experience, knowledge or skill in the practice of medicine, that by reason of his acts, on which she had relied, he had caused her to neglect proper medical attention with the result that her disease grew worse until it was too late to obtain a cure.

The case came to trial in April, 1924, and the jury awarded the woman $7,500 actual damages and $2,500 exemplary damages; the court rendered judgment accordingly. Mrs Graham died of cancer in October, 1925.

Quack Harris appealed the case but the Supreme Court held that the judgment of the trial court should be affirmed. The quack then petitioned for a rehearing. On April 12, 1927, the Supreme Court of the state denied it.

Meanwhile this bird of prey still continues his vulture-like activities.

Correspondence

IODINE IN GOITER PROPHYLAXIS

To the Editor:—In The Journal, June 4, page 1829, is a communication from your Berlin correspondent on "Iodine in Combating Goiter." In the article a report is given of the results of the researches of Frau Professor von Wrangel, and the statement is made that these researches had established that it is impossible by means of the addition of iodine to the soil to increase to any considerable extent the iodine content of plants grown therein, and that consequently also the iodine contained in the sodium nitrate brought from Chile does not have any influence in combating goiter disease and does not play any part with reference to the marked increase of the disease in Germany since the war.

An article on trials with iodine fertilization, which were carried out at the Landwirtschaftliche Hochschule (agricultural college), Weihenstephan, has unequivocally established that it is possible by means of suitable iodine fertilization to increase up to twenty fold the original iodine content in the most important food plants (grains, clover species, fodder grasses, sugar beets and fodder beets). Thus the way is opened by which iodine in an easily assimilable form may be introduced into the animal and human organism, in which, owing to lack of iodine, disease symptoms such as goiter and cretinism develop. By other investigators as well, iodine fertilization experiments have been carried out with the same result as in Weihenstephan.

Komitee für Chilesalpeter in Berlin,
Berlin-Charlottenburg.

THALLIUM ACETATE FOR EPILATION

To the Editor:—In The Journal, July 2, a physician asks whether thallium acetate, 8 grains to the ounce of cold cream, would cause epilation locally or generally. I have tried thallium acetate by daily inunction for a period of two weeks in strengths up to 10 per cent on four individuals without observing any result whatever either at the time or later.

H. O. Bames, M.D., Los Angeles.

SUICIDE IN CALIFORNIA

To the Editor:—In The Journal, July 9, H. A. D. of Buffalo asks the reason for the high suicide rate of cities in California. A partial reply was made by Mr. L. E. Ross of the California State Board of Health. In my opinion the most potent cause is the antiquated laws existing in California in regard to the committment of the mentally sick to state hospitals. The law requires that in order that a patient may receive treatment in a state hospital the complaining witness must make affidavit that the patient is "so far disordered in his mind as to endanger health, person or property." The patient is placed under arrest by police or sheriff; held under observation (in some places in the county jail) for at least twenty-four hours; tried in open court, and if adjudged insane by a judge of the superior court is turned over to the sheriff, together with warrant of arrest, and other papers, and conducted to a state hospital.

Naturally, relatives of the mentally sick hesitate to subject the patient to the indignity of such a proceeding. Furthermore, many judges insist on a literal interpretation of the law and refuse to commit patients unless they have demonstrated the fact that they are dangerous. Consequently, every city in California has large numbers of the mentally ill who cannot be given care and treatment until they have committed or attempted to commit a crime. In some cities the police have lists of the potentially dangerous "insane." I myself have known of at least half a dozen cases in the last year in which mentally depressed persons in San Francisco have taken their lives. One woman, recognized by her husband, the landlord, the police and social workers to be mentally deranged, took her own life and that of her five children.

The sheriffs of California who derive a large revenue from the handling of the mentally sick are well organized and have so far been successful in frustrating all attempts to change the law.

Eva Charlotte Reid, M.D., San Francisco.
Chief of Psychiatric Clinic, University
of California Hospital.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address but these will be omitted, on request.

FORMULA FOR HAND LOTION

To the Editor:—Please give me a formula for a hand lotion for my personal use. I have used Hind's honey and almond cream with the most satisfactory results of any lotion that I have found. My hands become dry, cracked and brittle from frequent scrubbing in the surgery, and sunburn, which condition I had not noticed before. Please do not publish my name.

M.D., New York.

Answer.—The following, recommended by William Allen Pusey, makes an excellent hand lotion and is cheap. The directions sound complicated, but it is easy to make after one gets the knack. It is important to follow directions. Of course it is as easy to make a pint or a quart, but it should always be made in a bottle about twice the size of the quantity of lotion being made.

Place in a wide mouth gallon bottle:

Liquid petrolatum	½ pint
Oil of bergamot	15 drops
Oil of lavender	15 drops

Coat the entire inside of bottle and cork with the foregoing by rolling the bottle round until the liquid petrolatum has come in contact with the entire inner surface. Then add:

Powdered tragacanth	1 ounce
Sodium benzoate	2 drams

Shake thoroughly, then add water a pint at a time until the quantities make up to one-half gallon. After each addition of a pint of water shake very thoroughly.

TREATMENT OF SPEECH DIFFICULTY

To the Editor:—My daughter has a speech disorder in which there is an inability to release certain words. She has no trouble in singing but is unable to speak fluently. I believe the cause of her trouble is distinctly mental and does not lie in any defective formation of her vocal organs, but rather is a lack of coordination between the brain and the muscles of speech. Will you kindly outline a plan of treatment? She is past 25 years of age, and her general health is fairly good. Please omit name.

M.D., California.

Answer.—From the standpoint of treatment, the problem of the individual stammerer should be estimated at any particular period of his life on the basis of: (1) the underlying constitutional tendencies to emotional and nervous instability; (2) the number of years that have served to fix and intensify the psychologic and peripheral disturbances; (3) environmental conditions and the manner of reaction of the stammerer to them; (4) the general health, and (5) the general intelligence and education.

Difficulties of eradication increase markedly with the years. This is due to the almost constant state of fear, depression and struggle in attempting to meet the requirements of the social life. Between the eighth and sixteenth years the psychologic factors especially gradually become greatly intensified and fixed in the mental life. Beyond the sixteenth year the more serious social and economic requirements of life itself are just ahead and the years of habit are telling more than ever. The problems of treatment are enormously more difficult at 20 and 25 years than earlier. Such is the rule; exceptions are not here under consideration. Occasionally, for example, a milder stammerer recovers gradually by his own efforts. The parent who drifts and waits for the spontaneous recovery of his child is usually destined to pay for his lack of intelligence. Treatment should be undertaken early.

With some exceptions, especially in the earliest years, one is confident, generally speaking, that no case will prove easy. Treatment necessarily is highly technical. A thorough understanding of the psychophysiology of speech production, and a knowledge of psychology especially applied to the mental disturbances of the stammerer, are required. Each case must be worked on as an individual psychophysiologic problem in self-control. Recovery follows adequate treatment (where full cooperation can be obtained) in a high percentage of the cases.

An attempt to outline a plan of home treatment for a stammerer 25 years of age, concerning whom individually one knows almost nothing, would be utterly unwarranted. This is not because stammerers at 25 cannot recover. It is because the problem is difficult and because success demands all the knowledge of the patient obtainable and because personal contact of the physician with the patient is practically always necessary.

Samuel D. Robbins has recently published an intelligent, practical little book, called "Stammering and Its Treatment," which aims at helping the stammerer himself. It would be of service to our correspondent and to others seeking similar knowledge.

GRAPEFRUIT INFUSIONS

To the Editor:—The use of a cold water infusion of whole grapefruit (including peel and pulp) for a variety of conditions seems to be quite in vogue here on the Pacific Coast. The multiplicity of conditions for which it is used suggests that the idea originated in one of our numerous schools of quacks. Has anything appeared in recent literature on the subject?

M.D., California.

Answer.—This seems to be one of the fads of Frank McCoy, who dispenses so much dietetic information that isn't so. According to McCoy, grapefruit "contains organic quinine," which, he declares, has "a quicker effect than the inorganic form of quinine used in tablet form." Some day, McCoy may catch up with the rest of the world and learn that quinine is an organic, and not an inorganic, substance. According to McCoy, this infusion of grapefruit is "valuable in its action upon the liver and gallbladder in the elimination of gallstones." The same "authority" declares that grapefruit "should never be used with the regular meal" and "under no circumstances should grapefruit . . . be taken preceding a meal or any closer than two hours before eating." Few men have a larger fund of dietetic misinformation than that possessed by Frank McCoy.

APPARATUS FOR KAHN TEST

To the Editor:—Where can we get a complete set for Kahn's precipitation test? Please omit name.

M.D., Colorado.

Answer.—To our knowledge, no firm supplies complete sets for the Kahn test. (The U. S. Navy supplies such sets for use within the organization.) Standard Kahn antigen ready for use is supplied by the Michigan Department of Health, Lansing, and by practically all biologic supply houses (such as Parke-Davis and the Digestive Ferments Co., Detroit). Glassware and apparatus are obtainable from the leading laboratory supply houses (such as Glasco Products, 504 South Green Street, Chicago; Arthur H. Thomas, Philadelphia). The technic of the test is fully described in Kahn's "Serum Diagnosis of Syphilis by Precipitation," published by the Williams and Wilkins Company, Baltimore.

POSSIBLE TUBERCULOUS CYSTITIS

To the Editor:—My son has tenesmus of the bladder. There is considerable pus in the urine, and the cystoscope shows inflamed membranes. The tenesmus extends to or principally affects the prostatic portion of urethra. It is brought on by urinating, and is rendered unbearable by irrigation or passing a sound. I have been administering scopolamine hydrobromide, 1/100 grain (0.6 mg.) at night for six months. Methenamine in fair doses is given. He suffers intensely. I have given morphine, but all has been withdrawn except one-eighth grain (8 mg.) at night. He drinks milk and water sufficient to render the urine clear. The right kidney was removed two years ago for hypernephroma. He had tuberculous glands as a child and reacts to tuberculin. He has always been well nourished until the last six months, and is gaining flesh now. He is 35 years of age. He has never had genito-urinary disease of any kind. His appetite is fair to good. Can you suggest anything? Is the scopolamine hydrobromide capable of doing harm? Please omit name.

M.D., Kansas.

Answer.—The symptoms reported suggest the presence of a tuberculous cystitis. One of the best anodynes in such instances is iodoform. It is best applied in a 10 per cent emulsion prepared with olive oil. Every other day about 30 cc. of this preparation is injected through a capillary catheter into the previously emptied bladder. Starting from the supposition of a tuberculous process, deep roentgenotherapy suggests itself. The treatments should be applied in turn perineally and suprapubically. A moderate voltage as a rule has a very soothing effect. If everything fails, cystostomy or nephrostomy must be tried. The therapeutic efforts mentioned may also have some palliative effect in case the trouble should be metastatic.

PROTEIN THERAPY IN POSTPARTUM INFECTION

To the Editor:—During the past six months I have been responsible for some difficult maternity cases—difficult for the mother and also for the physician. Many have been cases of posterior position, and during this time I have made myself familiar with the Kielland forceps, so that now as far as delivery is concerned I do not have much trouble. However, in spite of the best technic I can command, in a hospital, with trained and registered nurses, there are some cases in which there is a morbid temperature—from 103 to 104 F. In the treatment of this condition, apart from icebags and ergot, I am firmly of the opinion that injections of 20 cc. of sterilized skim milk, not more than three injections in any one case, have been of decided therapeutic value and have shortened the convalescence and brought the patient to normal in the least possible time. Now, I do not understand the theory or how this is accomplished, and I would be glad if you would answer this query through the columns of The Journal.

M.D., Saskatchewan.

Answer.—Both the normal and the abnormal activity of the cells of the body depend on external stimuli. When certain stimuli—bacterial, toxic, thermic, traumatic or chemical—produce disease they do so by decreasing the activity of the cells. The cells in turn react with defensive measures against these stimuli, and there is what is known as the acute stage of a disease. In the subacute stage, the cells still make a strong effort to overcome the noxious stimuli. When the chronic stage is reached, the cells are beginning to lose ground. At this stage, however, provided the cells are not completely exhausted, they may recover their normal function if they receive certain beneficial stimuli.

Proteins belong to this category of beneficial stimuli, for they have the power of restoring partly injured cells to normal activity. Stated in another way, proteins, just like many other nonspecific substances, can cure infectious diseases even though these substances do not bear any relation to the infections which are to be treated. These nonspecific substances must be given subcutaneously, intramuscularly or intravenously to produce their effect. Many proteins have been used for this purpose: egg albumin, normal blood, peptones, casein, colloidal metals; but milk is the one most commonly used.

It must be borne in mind, however, that protein therapy is not a panacea and it should not be used as a routine. Its use must depend on the intensity of the infection to be treated, its duration, and the resistance of the patient. It should never be used in cases of diabetes or cardiac decompensation, when there is hypersensitiveness manifested as asthma, urticaria, serum sickness or angioneurotic edema, or when the patient's nervous system is unstable.

CIRRHOSIS OF THE LIVER—TORPID LIVER

To the Editor:—1. Is there any recent treatment for portal cirrhosis of the liver in its earliest stages? Are mixed vaccines of the streptococcus-staphylococcus colon type of possible value? 2. Is there any scientific basis for the lay belief in hepatic insufficiency independent of organic lesions described as a "torpid liver," and can this condition be successfully treated by diet, medicinally or by exercise?

J. S. L.

Answer.—1. The treatment for portal cirrhosis of the liver in its early stages is one of rectifying the patient's mode of life and personal hygiene. Alcohol should be prohibited and the bowels well regulated with saline laxatives. Diet should be simple and free from highly seasoned foods. The spa treatment has been recommended, and it is especially serviceable in establishing new wholesome habits of diet and hygiene. If syphilis is coexistent, arsphenamine and mercury should be employed. Mixed vaccines do not have at present a scientific basis for their administration.

2. The term "torpid liver" does not have a scientific basis because functional tests made in this condition do not show evidence of hepatic insufficiency. Most patients who complain of this disturbance usually lead a sedentary life and suffer from constipation, and it should be successfully treated by mild saline laxatives and by exercise, and most of all encouragement to the patient.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

American Board for Ophthalmic Examinations Detroit, Sept 12 Sec, Dr W H Wilder, 122 S Michigan Blvd, Chicago

Alaska Juneau, Sept 6 Sec, Dr Harry C DeVighne, Juneau

National Board of Medical Examiners Parts I and II, Sept 14 16 Applications should be made by August 10 Sec, Dr John S Rodman 1600 Walnut Street, Philadelphia

New Hampshire Concord, Sept 8 9 Sec, Dr Charles Duncan, Concord

Oklahoma Oklahoma City, Sept 13 14 Sec, Dr J M Byrum, Shawnee

Porto Rico San Juan, Sept 6 Sec, Dr D D Biascoechea, Box 804, San Juan

HOSPITALS RECENTLY APPROVED FOR RESIDENCIES IN SPECIALTIES

Since the publication of the list of hospitals approved for residencies in specialties in The Journal, March 12, fifteen additional hospitals have been approved by the Council on Medical Education and Hospitals Their names and locations are as follows

Gorgas Hospital, Birmingham, Ala
Municipal Contagious Disease Hospital, Chicago
Henry Ford Hospital, Detroit
Harlem Hospital, New York
Woman's Hospital, New York
Children's Hospital Cincinnati
Babies' and Children's Hospital, Cleveland
Memphis General Hospital, Memphis Tenn
Pine Breeze Sanitarium, Chattanooga, Tenn
St Joseph's Hospital Baltimore
Brooklyn Eye and Ear Hospital, Brooklyn
Long Island Hospital, Long Island, Mass
Jewish Hospital of St Louis, St Louis
Memphis Eye, Ear, Nose and Throat Hospital, Memphis Tenn
Children's Hospital of Pittsburgh, Pittsburgh

Texas 1926 Reciprocity Report *

Dr T J Crowe, secretary of the Texas Board of Medical Examiners, reports that 201 candidates, including 22 osteopaths and 1 undergraduate, were licensed as physicians and surgeons by reciprocity, and 3 candidates were licensed by endorsement of their credentials during 1926 The following colleges were represented

LICENSED BY RECIPROCITY

College	Year Grad	Reciprocity with
Birmingham Medical College Birmingham	(1902), (1908)	Alabama
Medical Department University of Alabama	(1897)	Alabama
University of Alabama School of Medicine	(1909)	Mississippi
University of Arkansas School of Medicine (1901), (1903), (1912), (1915), (1924),	(1926)	Arkansas
College of Medical	)	California
Denver and Gross		Idaho
George Washington		Louisiana
Howard University School of Medicine	(1906)	Arkansas
National University Med Dept, Washington, D C	(1896)	Mississippi
Atlanta College of Physicians and Surgeons (1905) Georgia	(1902)	Louisiana
Atlanta Medical College Atlanta	(1915)	Georgia
Emory University School of Medicine	(1924)	Georgia
Chicago College of Medicine and Surgery (1917) Wyoming	(1909)	Illinois
General Medical College Chicago	(1924)	Wisconsin
Hahnemann Medical College and Hospital, Chicago	(1903)	Louisiana
Northwestern University Medical School (1894), (1907), (1910), (1918), (1924) Illinois,	(1924)	Oklahoma
Rush Medical College (1908) Oklahoma,	(1923)	Illinois
University of Illinois College of Medicine	(1913)	Oklahoma
Indiana University School of Medicine	(1908)	Oklahoma
Medical College of Indiana Indianapolis	(1896)	Illinois
Keokuk Medical College Keokuk	(1902)	Iowa
State University of Iowa College of Medicine	(1908), (1915)	Iowa
College of Physicians and Surgeons Kansas City	(1901)	Kansas
University of Kansas School of Medicine	(1907), (1925)	Kansas
Hospital College of Medicine Louisville	(1897)	Kentucky
Kentucky School of Medicine (1893) Oklahoma	(1906)	Indiana
University of Louisville School of Medicine (1906) Kansas (1911) Louisiana Mississippi (1910) Colorado, (1912) Missouri, (1913) (1921), (1925) Kentucky	(1882)	California
Tulane University School of Medicine (1897, (1916), (1922), (1924 3), (1925, 3) Louisiana (1921) Arkansas (1925) Alabama	(1887)	Oklahoma
College of Physicians and Surgeon	)	W Virginia
Johns Hopkins University School o	3)	Minnesota
University of Maryland School of (1925) Oklahoma	7)	Maryland
Harvard University (1922) Virginia	(1924), (1925)	Mass
University of Minnesota Medical School	(1921)	Minnesota
American Medical College	(1905)	Missouri
Barnes Medical College, St Louis (1910) Alabama	(1906), (1911, 2)	Missouri
Central Medical College of St Joseph (1900) Oklahoma	(1899)	Nebraska
Ensworth Med College, St Joseph (1908) Kansas,	(1914)	Missouri
Kansas City College of Medicine and Surgery	(1923)	Arkansas
Kansas City Med College, Kansas City, Mo	(1899)	Missouri, Oklahoma
Missouri Medical College, St Louis	(1897)	Oklahoma
St Louis College of Physicians and Surgeons (1893) Missouri, (1903) Colorado, (1910) Iowa	(1892)	Kansas
St Louis University School of Medicine Missouri, Missouri	(1925)	Mississippi
University Medical College of Kansas City (1897), (1901), (1905, 2), (1912) Missouri, (1897), (1900), (1911) Oklahoma	(1913)	Kansas
Washington University School of Medicine (1920) Minnesota	(1902), (1912)	Missouri
John A Creighton Medical College	(1901)	Nebraska
Lincoln Medical College, Eclectic	(1907)	Nebraska
Lincoln Medical College of Cotner University	(1910)	S Dakota
University of Nebraska College of Medicine (1921), (1925) New Mexico	(1920)	Nebraska
Bellevue Hospital Medical College	(1887)	N Dakota
Columbia University College of Phys and Surgs	(1923)	Georgia
Fordham University School of Medicine	(1917)	New York
North Carolina Medical College (1913) N Carolina,	(1914)	S Carolina
Eclectic Medical College Cincinnati	(1910)	Kentucky
Laura Memorial Woman's Med Coll Cincinnati	(1902)	Indiana
Medical College of Ohio (1907) Indiana	(1909)	Montana
Starling Medical College Columbus	(1898)	Ohio
University of Cincinnati College of Medicine	(1910)	W Virginia
University of Oklahoma School of Medicine (1912), (1914) (1916) (1917), (1925, 4) (1926, 3)		Oklahoma
Jefferson Medical College of Philadelphia (1911) North Carolina, (1913) Arkansas, (1916) Kansas Mississippi	(1909)	Oklahoma
University of Pennsylvania School of Medicine (1910 2) (1920)	(1925)	Penna
Meharry Medical College (1904) Tennessee	(1913)	Arkansas
Memphis Hospital Medical College (1903) (1899) (1900), (1904), (1912 2) Louisiana (1906), (1907) Oklahoma, (1903), (1913) Tennessee	(1904)	Arkansas
Nashville Medical College	(1892)	Arkansas
Sewanee Medical College Sewanee	(1909)	W Virginia
University of Nashville Medical Department	(1909)	Mississippi
University of Tennessee College of Medicine (1914) (1913) (1925 2) Tennessee, (1908)	(1891) (1916)	Missouri Oklahoma
Vanderbilt University School of Medicine (1892), (1909), (1914), (1917) (1921) (1923), (1925), (1926 2) Tennessee (1914) Arkansas		
University of Dallas Medical Department	(1902)	Oklahoma
Medical College of Virginia	(1920 2)	Virginia
University of Koenigsberg Germany	(1923)†	Missouri
Undergraduate		Tennessee
Osteopaths		California, Colorado, Missouri, 20

ENDORSEMENT OF CREDENTIALS

College	Year Grad	Endorsement with
University of Nebraska College of Medicine	(1919)	Alaska
Jefferson Medical College of Philadelphia	(1925)	U S Navy
University of Texas School of Medicine	(1917)	U S Navy

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* Supplementary to the statistics published in The Journal, April 30, 1927

† Verification of graduation in process

Book Notices

History of Medical Practice in Illinois Volume I—Preceding 1850 Issued by the Illinois State Medical Society in Commemoration of Its Diamond Jubilee Compiled and Arranged by Lucius H Zeuch, M D, a Member of the Committee Appointed for this Task Cloth Price, $10 per set (To be issued in 2 volumes) Volume I Pp 713, with illustrations Chicago The Book Press Inc, 1927

The first volume of this history of medical practice in Illinois brings the subject down to 1850 A second volume, bringing the subject down to date, is now in preparation The scope and extent of the work are shown by the table of contents

Chapter 1 Prehistoric Illinois (We can see no use for this chapter)
Chapter 2 The period of the French explorers
Chapter 3 The period of French influence and colonization
Chapters 4 and 5 The early British colonies
Chapter 6 The Illinois territory in the early nineteenth century
Chapter 7 The physicians of St Louis, the suburb of the American bottom in the early days (A chapter logically included)
Chapter 8 The centers of civilization on the Wabash, Ohio and Mississippi
Chapter 9 Medicine in Chicago prior to 1836
Chapter 10 Chicago from 1836 to 1850
Chapter 11 Early homeopathy in Illinois
Chapter 12 Medical pioneers of the interior of the state, southern section
Chapter 13 The same for the central counties
Chapter 14 The same for the northern counties

Dr Zeuch has brought together an invaluable treasure of early medical history His interest is not confined to medical affairs and the value of the book is much enhanced by the background of general early history that is included Father Allouez, Marquette, LaSalle, the Chicago Portage, Cahokia, Kaskaskia Fort De Chartres, Fort Massac, the American bottom with its mounds and its rich prehistoric material—about all of these there is interesting, vivid information Indeed the reviewer knows no other place where there is readily available more bits of knowledge concerning these interesting subjects But these are incidental to the medical history of these places and times which the author has accumulated and recorded with no less industry and zeal From the time of LaSalle down to 1850 the facts are provided about the physicians who enter into the medical history of the state There is much valuable information about the diseases with which the pioneers had to contend, the epidemics, the insanitary conditions and all the details of practice of the time—not only the scientific details but also the material details which add color and interest to the recital This is, historically, the most interesting part of the volume, but the chapters devoted to the history after the state was organized are full of information and will become increasingly useful as time goes on The chapter on the early medical history of Chicago will be read with interest by those who are interested in its history One gets a glimpse of many striking personalities

The fidelity, the resourcefulness, the wide influence, the general usefulness of the old time practitioners who played so large a part in the activities of their communities are repeatedly emphasized Some heroes are rescued from complete oblivion, many of them might form the themes for stirring novels An episode is recorded of Dr Silas Hamilton who had practiced in Natchez Miss, and who came to Monroe County, Illinois, in 1830 He died in 1834, but before his death he liberated his twenty-eight slaves One of these, George Washington Hamilton, prospered and lived until 1864, thirty years after his master All this part of the story is commonplace for the same thing happened many times, but there is one episode of it that speaks a volume for the negro and for his master Before his death George Washington erected a monument—not a little marker but a handsome marble column 12 or 14 feet high—in honor of his old master, on which he inscribed the fact that he had erected this monument to the memory of his former master, Dr Silas Hamilton One would be glad to know much of this good master and of his grateful slave

The book is generously illustrated Some pictures which are imaginary are banal, but there are many interesting old reproductions Kaskaskia, the ruins of Fort De Chartres, early Cairo, Prairie du Rocher, old Cahokia surgical instruments, the ruins of Fort Massac Cave-in Rock, Nauvoo, the first Rush Medical College building, and so on Several old maps add greatly to the value of the volume Collot's map of the Illinois country for 1796, part of Thomas Hutchin's map of 1778 Harrison and Guion's map showing the early trails of Chicago The illustrations and the maps alone would make the volume valuable and worth while

With all of the copies of the oath of Hippocrates that are available for the frontispiece, the one used is illegible and bears the imprint of a proprietary medicine firm There is almost no reference to the Society of Medical History of Chicago, or its *Bulletin* or collections, and there is almost no mention of the work of Dr George H Weaver who, more than any one else preceding Dr Zeuch, has dug up the facts of the early medical history of Illinois In the index he is given as Dr G H Weaver, then as Dr G H Weaver of Chicago, on pages 645 626 there are two paragraphs referring to his valuable paper on early medical education in Illinois, but this time he is referred to as Dr Geo W Weaver No one can write the medical history of Illinois successfully without availing himself of Weaver's invaluable work, and in any volume on this subject he should have due credit Certainly he should not have his name incorrectly written or in any way confused

Any one with interest or pride in the medical history of Illinois should have this book Dr Zeuch is to be congratulated on his work in preparing it

THE WOMAN A MAN MARRIES An Analysis of Her Double Standard By Victor Cox Pedersen, A M, M D, F A C S Cloth Price, $3 net Pp 276 New York George H Doran Company, 1927

In this volume a specialist in urology analyzes the reasons for failure in many modern marriages Obviously the point of view of urologists in these matters is largely based on experience with persons whose marriages have failed for physical causes, including primarily impotence in the male, frigidity in the female, and venereal disease As a result of his analysis, Dr Pedersen is apparently convinced that the trend toward feminism is responsible largely for frigidity, that few women are willing to bear their share of the physical side of married life, and that the modern costume and habits of women lead to male seduction The book is essentially a plea of equal rights for men in these matters The cure for the diseases of modern civilization, particularly as they relate to marriage, is, according to Pedersen, a return to the family life in which the woman was essentially the keeper of the home, and an abolishment of prudery in childhood education The views are interesting and must be taken seriously because based on much observation

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender Selections will be made for more extensive review in the interests of our readers and as space permits Books listed in this department are not available for lending Any information concerning them will be supplied on request

MANUAL OF BACTERIOLOGY By Robert Muir, M A, M D, Sc D, Professor of Pathology, University of Glasgow, and the late James Ritchie M A, M D F R C P Revised by Carl H Browning M D, D P H Gardiner Professor of Bacteriology, University of Glasgow, and Thomas J Mackie M D, D P H, Irvine Professor of Bacteriology, University of Edinburgh Eighth edition Cloth Price, $4 75 Pp 821, with 211 illustrations New York Oxford University Press, 1927

Latest edition of well-established textbook in bacteriology

MALARIAL PSYCHOSES AND NEUROSES With Chapters Medico Legal, and on History, Race Degeneration Alcohol and Surgery in Relation to Malaria By William K Anderson M D, F R F P S, Visiting Physician to the Eastern District Hospital Duke Street, Glasgow Cloth Price, $13 Pp 395 with 18 illustrations New York Oxford University Press, 1927

Complete discussion illustrated by several hundred reports of cases and with complete bibliography

TROPICAL SURGERY AND SURGICAL PATHOLOGY By Karuna K Chatterji F R C S I, Major I T F Medical Corps Surgeon, Medical College Hospitals Calcutta With a foreword by Major General Sir R Havelock Charles G C V O K C S I, M D, Serjeant Surgeon to H M the King Cloth Price, $6 Pp 244, with 96 illustrations New York William Wood & Company, 1927

Has special reference to surgery of amebiasis, filariasis and granulomas

CYSTOSCOPY A Theoretical and Practical Handbook containing Chapters on Separate Renal Function and Pyelography By Jas B Macalpine, F R C S, Honorary Surgeon and Surgeon in Charge of the Genito Urinary Department Salford Royal Hospital Manchester Cloth Price, $7 Pp 284, with 181 illustrations New York William Wood & Company, 1927

New outline of subject with specially painted illustrations

THE HEALTH OF THE CHILD OF SCHOOL AGE By Various Authors With a foreword by Sir Thomas Oliver, M A, M D, F R C P, Professor of Medicine University of Durham and College of Medicine Newcastle upon Tyne Cloth Price, $1 80 Pp 204 New York Oxford University Press, 1927

Compilation of popular articles on the health of the child

INTRACRANIAL TUMOURS AND SOME ERRORS IN THEIR DIAGNOSIS By Sir James Purves Stewart K C M G, M D, F R C P, Senior Physician to Westminster Hospital Cloth Price, $3 75 Pp 206, with 51 illustrations New York Oxford University Press, 1927

Monograph on brain tumor with case reports and indications for operation

AN ILLUSTRATED GUIDE TO THE SLIT LAMP By T Harrison Butler, M A D M, M R C S, Honorary Ophthalmic Surgeon to the Coventry and Warwickshire Hospital Cloth Price, $9 Pp 144, with 158 illustrations New York Oxford University Press, 1927

Marvelously printed illustrations around which is a straight-reading text

FUNDAMENTALS OF THE ART OF SURGERY By John H Watson, M B B S, F R C S, Surgeon to the Victoria Hospital, Burnley Cloth Price, $6 Pp 349, with 65 illustrations New York Paul B Hoeber, Inc, 1927

Well-written chapters devoted to principles rather than technic

PRACTICAL OTOLOGY By Morris Levine, M D, Associate Professor of Otology New York Post Graduate Medical School and Hospital Cloth Price $5 50 Pp 387, with 148 illustrations Philadelphia Lea & Febiger, 1927

Collection of lectures, well illustrated, and most practical.

CHEMICAL TESTS A Manual for Chemists and Physicians By Russell C Erb, B S, M S Associate Professor of Chemistry at the Philadelphia College of Osteopathy Cloth Price, $3 Pp 262 Easton Chemical Publishing Company, 1927

Chemistry as outlined to students of osteopathy

AN OUTLINE HISTORY OF OPHTHALMOLOGY By Thomas Hall Shastid, A M, M D F A C S Cloth Price, $1 25 Pp 34 Southbridge American Optical Company, 1927

A one-hour lecture giving chronology in ophthalmic investigation

A FACSIMILE OF THE FIRST EDITION OF THE PHARMACOPOEIA AUGUSTANA With Introductory Essays by Theodor Husemann Boards Pp 259 Madison State Historical Society of Wisconsin, 1927

Replica of an ancient text

A HANDBOOK OF DISEASES OF THE STOMACH By Stanley Wyard, M D, B S, M R C P, Physician to the Bolingbroke Hospital and the Victoria Hospital for Children Cloth Price, $5 Pp 387, with 32 illustrations New York Oxford University Press, 1927

MORTALITY STATISTICS 1924 Twenty Fifth Annual Report Paper Price, $2 25 Pp 487 Washington, D C Government Printing Office, 1927

DIRECTORY OF THE AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS Cloth Pp 119 Chicago Charles J Pollak, 1927

Medicolegal

Release Covering Right of Action for Malpractice

(Retelle v Sullivan (Wis), 211 N W R 756)

The Supreme Court of Wisconsin, in disposing in a single opinion of two actions, brought by father and son, to recover damages resulting from alleged malpractice, says that it appeared that the injury treated—a broken arm of the son—was sustained on or about Sept 23, 1923, that the defendant's care and treatment ceased on Nov 30, 1923, and that on June 4, 1924, a settlement was made with one Allison and his insurance carrier, by which Allison and his insurance carrier were released "from all actions, causes of action, and demands of every kind and nature which I now have, claim to have, or may hereafter claim to have against either or both of them arising out of or on account of said injury to said Russell Retelle" Russell was the son, and his arm was broken while he was on or about certain premises owned by Allison The defendant's answers to the actions for malpractice set up as a defense to the actions the releases to the foregoing effect signed by the father and by the son, the latter signing by his guardian Demurrers were filed to that portion of the answers, and from orders overruling the demurrers the plaintiffs appealed The supreme court affirms the orders, on the ground that settled principles of law, as well as every consideration of justice, required that the demurrers be overruled

An element of the damages which the plaintiffs might have recovered against Allison, at the time of the settlement with him, included damages resulting from improper or unskilful treatment of the broken arm by the defendant This is well settled in Wisconsin law On payments made by Allison, the plaintiffs discharged him and his insurance carrier as stated above This was certainly sweeping and all-inclusive It included that element of damages resulting from the defendant's alleged negligent treatment The settlement thus made subrogated Allison, or the insurance carrier, or both, to any claim which the plaintiffs might have had against the defendant for damages resulting from his negligent treatment If, prior to such settlement with Allison, the plaintiffs had a claim for damages against the defendant, such claim passed from them to Allison or to his insurance carrier on such settlement, and since said transaction the plaintiffs did not have any claim against the defendant By their release they acknowledged full satisfaction for all damages from the broken arm, and they could not have two recoveries for the same damages To permit the plaintiffs to recover in these actions would enable them to recover damages twice for the same injuries, and would either deny Allison the right of subrogation or impose double damages on the defendant physician

Sanatorium Not Liable for Not Restraining Patient

(Hohmann v Riverlawn Sanatorium et al (N J), 135 Atl R 817)

The Court of Errors and Appeals of New Jersey, in affirming a judgment in favor of the defendants, says that the plaintiff, who brought this action as administratrix, brought it under what is known as the death act, contending that the death of her husband was the result of negligence of the defendants He had been admitted to the sanatorium for treatment and examination, for and as to his mental condition He had a tendency to commit suicide, having made two unsuccessful attempts to take his life prior to entering the sanatorium After he had remained there nine or ten days he disappeared, and his body was afterward found hanging from a tree At the conclusion of the plaintiff's case a nonsuit was moved and granted by the trial court on the grounds that no act of negligence had been shown, and because under such circumstances no recovery could be had under the death act There was no error in this action of the trial court There was no duty of restraint owing from the defendants toward the patient He was not admitted to the sanatorium under any provision for restraint or confinement as the result of legal proceedings, nor did he voluntarily impose restraint and custody on himself by his agreement with the defendants, but by such agreement he was admitted as a patient for observation and medical treatment only His death was not the proximate result of any failure of duty owing to him by the defendants under this agreement of admission

Ending of Total Disability—Importance of Opinions

(Silkey v Panhandle Coal Co No 5 (Ind), 154 N E R 778)

The Appellate Court of Indiana, in reversing an award of the industrial board of compensation for 3 5/7 weeks to a workman who sprained his back, says that an attentive and thoughtful reading of the finding of facts and the award based thereon could not fail to reveal that something was lacking Did the injured workman suddenly pass from a condition of total disability to a perfectly normal condition? A transition of that kind would be something unusual in human experience Common observation does not prepare men to believe that a workman who suffered an injury to his spine which resulted in total disability for 3 5/7 weeks would, at the end of that period, suddenly become able to resume hard labor in a coal mine The usual award in such cases is (under the workmen's compensation act of Indiana) for compensation "during total disability not to exceed 500 weeks" That plan leaves the way open for future adjustments in accordance with changed conditions, and is therefore eminently fair and just

A physician testified that this case resolved itself into a subjective proposition, that considering the history of the accident and the history of the case following, he would suspec that the man had a left side sacro-iliac sprain, that these sprains give trouble for quite a while, sometimes several months, but, on continued rest over the extended time that this man had had since the injury, with no history of recurren injury, the witness would expect his condition to be wel enough along for light work, while most of these complaint were usually entirely well after this period It should be specially observed that the physician said "we would expect" the workman's "condition to be well enough along for light work at this time" He also said that the man should be "ordered to work" Of course, the physician did not realize that the industrial board has no power to order men to work

It is provided by the statute, however, that, if the employer desires to reduce the amount of compensation for which he is liable, he may furnish the injured workman employment suitable to his capacity, and if the workman refuses employment of that kind, "he shall not be entitled to any compensation at any time during the continuance of such refusal unless in the opinion of the industrial board such refusal was justifiable." In accordance with the evidence presented to the board, the award in this case should grant compensation to the workman during total disability not exceeding 500 weeks, and evidence should be heard as to whether there had been any change in his condition since the former hearing, the board to make such further award as the evidence might warrant. The presumption is that the injured workman is entitled to full compensation until he is able to resume work of the same kind or of the same general character as the work in which he was engaged at the time he received the injury.

In cases like the one at bar, a great responsibility rests on the men of medical science, and their opinions and conclusions are ordinarily entitled to great weight where they have made a personal examination of the patient Equipped with a store of knowledge acquired by study and observation, the physician is in a position to ascertain his patient's condition uninfluenced by anything except the cold scientific truth The patient's situation is quite different He has a vivid recollection of the accident, he has endured the pain, and the doubt, the fear, and the anxiety are his

Decision Against Chiropractor on Complaint and Law

(Frutiger v. State ex rel Davis (Ala), 111 So R. 37)

The Supreme Court of Alabama, in affirming a judgment for the plaintiff, says that this action in the nature of quo warranto, brought in the name of the state on the relation of the solicitor of the tenth judicial circuit, was for the purpose of excluding respondent Frutiger from the exercise of the profession of treating, or offering to treat, diseases of human beings The complaint was in part to the effect that the respondent, since Aug 18, 1924, had intruded into the profession of treating, or offering to treat, diseases of human beings (a profession requiring a license, or certificate or other legal authorization within this state), without having obtained a certificate of qualification from the state board of medical examiners of the state of Alabama, or the license required by law, and was still unlawfully practicing the profession in Jefferson County, Ala The respondent demurred to the complaint on the grounds that it was vague, uncertain and indefinite; that it failed to set forth, except by way of conclusion, that he was treating or offering to treat diseases of human beings; that it failed to allege or show the particular certificate of qualification from the state board of medical examiners that he failed to obtain, that it was not alleged or shown in what manner or way or according to what school or science he was treating or offering to treat diseases of human beings; that the license or certificate of qualification that it was alleged he had not obtained was not set forth with sufficient certainty or definiteness. But the complaint was sufficient, and the demurrer interposed to it was properly overruled Chiropractors are required by law to have a certificate of qualification to treat diseases of human beings. Section 2837, code of 1923.

This court has said that "chiropractus" is specially named as one of the schools of "mechanotherapy" in whose favor all educational qualifications are waived except a diploma showing graduation from such school. The subjects on which the applicants are examined are limited. The certificate entitles the holder to treat in accordance with the teachings of his school or sect. That sufficiently answered the argument made in this case on the construction of the statute by reason of the use of the word "mechanotherapy" therein. Nor can sound objection be made to the statute in that the certificate so issued to the chiropractor is limited to treatment in accordance with his school. His examination is likewise limited, and the limitation of his certificate as prescribed by the statute is in accord with his methods of treatment. Nor does the court think that the statute is unreasonable in requiring examination on some subjects which are not needed in the practice of this particular school.

It was averred in the answer that the medical board for the examination of applicants is not sufficiently skilled and competent to pass on the proficiency of one in the respondent's line of work, and that the members thereof are prejudiced against it, and that a certificate could not therefore be obtained, though there was no allegation that the respondent had ever presented himself for examination. The argument in support of these averments was addressed, however, to a wholly anticipated unfair administration of the law, and in no manner affected the validity of the law itself. The statute here assailed was enacted under the police power of the state in promotion of the public health, and has been upheld in previous decisions of this court. This court entertains the view that the statute is not unreasonably discriminatory or violative of any constitutional provision

Damages Allowed for Injury to Weak-Minded Child

(Ketterer v. Public Service R. Co. (N. J.), 135 Atl. R. 679)

The Supreme Court of New Jersey says that a boy about 3 years old was run over by a car of the defendant. His right leg was so injured that it was amputated "just below the crotch," or so that about 4 inches of bone remained. His left leg was broken at a corresponding point and crushed so that it seemed doubtful whether it would recover, but it eventually did The boy was deficient mentally, being somewhere between an imbecile and a moron, and his intelligence would never exceed that of a child of from 8 to 12 years of age. This condition existed prior to the happening in question and was not produced by it. He had a verdict for $15,000 damages, and his father one for $7,000. The court was asked to set aside both verdicts on the ground that they were excessive, the argument of the defendant against the amounts of the verdicts being that the earning capacity of the boy, because of his mental deficiency, would be nothing or at best very small But the court does not feel warranted in disturbing the verdicts, which, in its judgment, could have no possible taint of excessiveness in the case of a normal child. Conceding that the boy's capacity to earn was below that of one of normal mentality, the court thinks that the jury was warranted in taking into consideration that such lack of mentality left open to the boy only one means of earning and that was by manual labor, and that by the deformity resulting from his injury even that door was closed against him and he must go through the remainder of his life not only mentally but physically deficient and entirely dependent on others for a means of existence. As to the father, practically the same argument applied Not only must he maintain a mentally incompetent son, but one rendered a cripple, unable to earn for himself, and whose care for the future must therefore be more highly expensive than if he were of normal mentality.

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, Detroit, September 12-16 Dr. W. P. Wherry, Bankers Reserve Life Building, Omaha, Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Asheville, N. C. September 15-17. Dr. J. E. Davis, 111 Josephine Avenue, Detroit, Secretary.

American Electrotherapeutic Association, New York, September 12-16 Dr. Richard Kovacs, 223 East Sixty-Eighth Street, New York, Secretary.

American Roentgen Ray Society, Montreal, Canada, September 20 23. Dr C. L Martin, Baylor Hospital, Dallas, Texas, Secretary.

Colorado State Medical Society, Glenwood Springs, September 6 8. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.

Idaho State Medical Association, Twin Falls, August 29-31. Dr. J. N. Davis, Kimberly, Secretary.

Indiana State Medical Association, Indianapolis, September 28 30. Mr. T. A Hendricks, Hume Mansur Building, Indianapolis, Executive Secretary.

Missouri Valley, Medical Society of the, Des Moines, Iowa, September 14 16 Dr. Charles Wood Fassett, 115 East Thirty-First Street, Kansas City, Mo., Secretary.

Oregon State Medical Society, Salem, September 1-3. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.

Washington State Medical Association, Tacoma, August 29-31. Dr. C. H. Thomson, 5J3 Cobb Building, Seattle, Secretary.

Wisconsin, State Medical Society of, Eau Claire, September 21 23. Mr. J G. Crownhart, 153 Oneida Street, Milwaukee, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal in America for a period of three days No foreign journals are available prior to 1921, nor domestic prior to 1923 Periodicals published by the American Medical Association are not available for lending but may be supplied on order Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested)

Titles marked with an asterisk (*) are abstracted below

American Journal of Anatomy, Philadelphia

39: 135 353 (May 15) 1927

Inanition I Action of Prolonged Fasting on Cells and Tissues U D Ancona —p 135
Quantitative Study of Follicular Atresia in Mouse E T Engle, San Francisco —p 187
Elastic Tissue of Heart in Advancing Age A M Miller and O C Perkins New York —p 205
Role of Thyroid and Parathyroid Glands in Growth of Heart and Lungs F S Hammett Philadelphia —p 219
Role of Thyroid Apparatus in Growth of Liver, Kidneys and Spleen F S Hammett, Philadelphia —p 239
Relative Role Played by Embryonic Veins in Development of Mammalian Vena Cava Posterior I G Butler, Princeton N J —p 267

American J. of Obst. & Gynec., St. Louis

13: 551 688 (May) 1927

*Toxemias of Pregnancy H J Stander, Montreal —p 551
*Syncytial Endometritis and Syncytioma M Rosenzweig, New York —p 563
*Ovarian Luteoma S A Wolfe, New York —p 575
*Pulmonary Embolism Complicating Pregnancy, Labor and Puerperium E F Bunzel New York —p 584
Results in 130 Pregnancies Subsequent to Cesarean Section in Ninety Six Patients F W Rice, New York —p 591
Treatment of Menstrual Disorders by Roentgen Rays A J Rongy, New York —p 598
Structure and Functions of Endocrine Glands, Particularly Ovary L Fraenkel, Breslau, Germany —p 606
*Morbidity and Mortality of Cesarean Section T L Montgomery, Philadelphia —p 610
*Pregnancy and Heart Disease J Corwin W W Herrick, M Valentine and J M Wilson, New York —p 617
Separation of Symphysis Pubis and Fracture of Ascending Ramus with Normal Delivery I Walker, Philadelphia —p 623
Perineal Injuries During Parturition 336 Cases J F Carrell, Philadelphia —p 627
Cesarean Section C B Lull, Philadelphia —p 633
Advantages of Rectal Palpation During Pregnancy and Labor H Stuckert Philadelphia —p 642
Viability of Cast Off Menstrual Endometrium R S Cron and G Gey, Milwaukee —p 645
Eclampsia with Relatively Low Blood Pressure A L Desser, Los Angeles —p 647
Intra Abdominal Pregnancy with Living Child W P Daly Hartford, Conn —p 649

Toxemias of Pregnancy—Evidence is presented by Stander to show that fats do not pass the placental membrane from mother to child, that the fetus utilizes mainly carbohydrates, and that there is a consequent drain on the carbohydrates of the mother This leads to a tendency toward acetonuria in normal pregnancy and to the so called acidosis of pregnancy In normal pregnancy, then, the mother has to change her metabolism to suit her offspring, and the greater part of this change is perhaps instituted between the second and fourth months Further work is necessary to prove conclusively that the vomiting of pregnancy is dependent on this change in metabolism, although the evidence so far adduced makes it highly probable It is perhaps because of this drain on the maternal carbohydrates that glucose has been found to be of some benefit in the treatment of vomiting of pregnancy

Syncytial Endometritis and Syncytioma—Two cases are presented by Rosenzweig of transitional lesions in the chorioma group (*a*) syncytial endometritis, and (*b*) syncytioma The lesions are essentially benign A review of the literature shows that there is not a general cognizance of these lesions, and further that many cases reported as typical malignant chorio-epithelioma are really of these transitional types Rosenzweig feels that the incidence of typical malignant chorio-epithelioma or choriocarcinoma is much less frequent than has been supposed

Ovarian Luteoma.—Wolfe reports a case of true ovarian luteoma The cells are of the pale type but granular, grow diffusely or in alveoli, and have no contact with capillaries The tumors are gray-yellow on gross appearance

Pulmonary Embolism in Pregnancy—Bunzel analyzes thirty-two cases of pulmonary embolism which occurred in 31,716 pregnant patients approximately 0 1 per cent The incidence of pulmonary embolism was three times greater in operative than in normal deliveries The incidence of pulmonary embolism was 1 5 per cent in all cases of cesarean section, and 2 per cent in all cases of placenta praevia Secondary embolism was uncommon, occurring only twice in the thirty-two cases, i e in about 6 per cent of the cases, and following the first embolus by at least two weeks In the entire series of thirty-two cases the mortality was 65 per cent and in the twenty-four patients delivered the mortality was 66 6 per cent In the cases that terminated fatally 70 per cent of the deaths occurred within an hour from the onset of symptoms, and 90 per cent within twenty-four hours

Morbidity and Mortality of Cesarean Section—Twenty-five cesarean sections with four maternal deaths (16 per cent) are reported on by Montgomery Twenty-six infants were delivered, of these, three were born dead (11 9 per cent) and three died after delivery (11 9 per cent), a total mortality of 23 8 per cent The three stillbirths occurred in cases of antepartum bleeding, one in placenta praevia the other two in premature separation of the placenta Of the three infants who died after delivery one was premature (8½ months) in a case of placenta praevia, the second was syphilitic and the third not viable Section was performed for various indications, as an elective operation or early in labor in nine cases There were no maternal deaths In nine cases section was performed after ten hours of labor In this group there were two maternal deaths, 22 2 per cent Cesarean section and myomectomy were performed on two patients for fibroma uteri complicating labor with one maternal death Five patients with placenta praevia were treated by cesarean section with two maternal deaths Two patients with complete separation of the placenta and with closed cervix were treated by abdominal operation, one by simple cesarean section the other by cesarean section and hysterectomy Both mothers made an uncomplicated recovery In no case was cesarean section performed for eclampsia

Pregnancy and Heart Disease.—One hundred and ninety-six cases of organic cardiac disease complicating pregnancy are analyzed by Corwin et al The maternal mortality was about 6 per cent The mitral valve was affected most, and the rheumatic group of diseases was the usual antecedent infection

American Journal of Pathology, Boston

3: 179 288 (May) 1927

*Pathology of Bone Marrow in Pernicious Anemia F W Peabody, Boston —p 179
*Transformation of Malignant Paravertebral Sympathicoblastoma into Benign Ganglioneuroma H Cushing and S B Wolbach, Boston —p 203
Reticulum of Lung IV In Reparative Process of Tuberculous Lesion With and Without Caseation W S Miller, Madison, Wis —p 217
Pulmonary Spirochetosis C E Smith and G Y Rusk, San Francisco —p 225
Adenocarcinoma of Uterus in Rabbit G Y Rusk and N Epstein, San Francisco —p 235
*Tuberculosis of Tongue Case W H Feldman Fort Collins, Colo —p 241
Transplantation and Individuality Differentials in Inbred Families of Guinea Pigs L Loeb and S Wright Washington D C —p 251
*Histogenesis of Urinary Casts H Jackson Jr, Boston —p 285

Pathologic Changes of Bone Marrow in Pernicious Anemia.—Observations made by Peabody on the structure of the bone marrow in pernicious anemia on tissue obtained at biopsy at different stages of the disease, show that the myeloid hyperplasia is most marked during relapse, and that the structure of the marrow tends to return to normal during remission During relapse the essential histologic lesion is a rapid and extensive proliferation of primitive cells (megaloblasts), with a relatively diminished tendency toward the differentiation of mature cells of the erythrocyte series The bone marrow shows a cellular hyperplasia, but it is functionally inefficient

Transformation of Sympathicoblastoma into Ganglioneuroma—A paravertebral swelling at the sixth thoracic level occurred in the back of a child, aged 2 years, following a trauma The lesion proved on exploration to be a cellular sympathicoblastoma (sympathetic neuroblastoma) which was mistaken at the time for a sarcoma Cushing and Wolbach believe that the tumor had taken its origin from the region of an intervertebral foramen, and had extended into the spinal canal as well as into the spinal muscles Apparently under the influence of Coley's toxins, the activity of the growth subsided Ten years later, owing to the persistence of a paraplegia, an exploratory laminectomy was performed This disclosed a relic of the former growth whose cells had become completely differentiated into ganglion, capsular and neurilemma cells

Tuberculosis of Tongue—Feldman reviews 283 cases and reports one new case The disease is nearly five times as frequent in the male as in the female

Histogenesis of Urinary Casts—Evidence is presented by Jackson that at least certain casts in chronic nephritis are formed by the coalescence of granules found in the circular reticulum of the kidney and that this reticulum is in turn formed by an abnormal budding of the renal cells This process is not peculiar to the kidney, at least so far as the initial stages are concerned, for it has been seen in other organs under varied conditions The reaction is to be interpreted as due to an abnormal environment about the cells involved

American J. Roentgenol. & Rad. Therapy, New York

17 507 610 (May) 1927

Clinical and Roentgen Ray Findings in Healthy Adult Chest Committee Report
Infectious Osteomyelitis Diagnosis R S Bromer Philadelphia —p 528
**Roentgenographic Aid in Diagnosis of Intestinal Obstruction* K S Davis Los Angeles —p 543
*Influence of Roentgen Rays on White Mice and Progeny M Levine, New York —p 546
Os Vesalianum Pedis G G Davis Chicago —p 551
Hemorrhagic Infarct of Lung P R Casellas El Paso Texas —p 554
Profile Roentgenogram of Optic Canal H A Goalwin New York —p 573

Radiographic Diagnosis of Intestinal Obstruction—Davis asserts that the diagnosis of intestinal obstruction and the approximate site of the lesion can quickly be determined by means of a roentgenogram, because the intestine above the obstruction is ballooned out with gas

Effect of Roentgen Ray on Mice—Levine asserts that mice exposed to a dose of roentgen rays which corresponds to a small human erythema dose are not visibly affected The young of these mice do not show defects through the sixth generation By increasing the dose to what may be described as a large human erythema dose, sterility occurs

Boston Medical and Surgical Journal

196 803 846 (May 19) 1927

Preventorium Problems J B Hawes 2d, Boston —p 803
*Salt Free Diet in Arterial Hypertension E R Blaisdel, Portland Me —p 808
Lessons from Tuberculosis Fight J S Stone Boston —p 812

196 847 892 (May 26) 1927

Increase of Surgical Conditions as Cause of Death in Diabetes H F Root Brookline Mass and S Warren Boston —p 864
Medical Incunabula in William Norton Bullard Collection J F Ballard —p 865

Salt-Free Diet in Arterial Hypertension—In the thirty five cases reported on by Blaisdell, the blood pressure was reduced to normal in only a small number of cases, but there was a marked lowering of both the systolic and diastolic pressures in nearly every case There was a decided relief from symptoms in all cases Although under observation for a comparatively short length of time, the disease seemed to be arrested in every instance With few exceptions, the results obtained were independent of time The blood pressure was reduced within the first month and remained stationary, as long as the patient remained faithful to the diet None of the patients were put to bed or told to be quiet in order to reduce the blood pressure As a matter of fact, the majority of patients were able to carry on their work with greater ease after being on the diet A decrease in activity was advised in those patients with advanced heart complications but little heed was paid to this advice The salt-free diet *prescribed in these cases is the same as that advocated by* Allen Sodium chloride or sodium bicarbonate were not used in preparing the foods, and neither was used at the table The foods chosen were from those lowest in salt content After the initial elimination of salt, an attempt was made to keep the twenty-four hour urine chlorides at 0 5 Gm, although they ranged from 0 3 Gm to 0 9 Gm As a precautionary measure, protein was restricted to 80 Gm daily In the presence of nitrogen retention, the protein intake was kept lower than this If the blood nitrogen was high, a strict salt-free diet was not prescribed at once, the patient was *first put on a low protein diet for a few days This* was done in order to prevent the precipitation of uremia

196: 933 972 (June 9) 1927

Industrial Surgery W H Rose, Worcester, Mass —p 933
*Low Protein Diet in Chronic Nephritis M Smith, Boston —p 941
Surgical Instruments Designed by Lord Lister C J S Thompson, London —p 946
Treatment of Congenital Pyloric Stenosis J Garland, Boston —p 951.

Low Protein Diet in Chronic Nephritis—Smith cites a case of chronic nephritis in which an average daily protein intake of 0 26 Gm per kilogram of body weight sustained a boy, aged 17, *for six months without untoward effects*

Canadian Medical Association Journal, Toronto

17: 501 636 (May) 1927

Irregular Practice and Quackery H Rolleston —p 501
Second Conference on Medical Services in Canada A Primrose —p 509
Points of Contact Between Departments of Public Health Medical Profession and Public J A Amyot —p 519
Protein Metabolism G Lusk —p 522
Diphtheria Toxoid as Immunizing Agent J G Fitzgerald —p 524
*Digitalis V E Henderson and M I Sparks —p 530
*Coronary Thrombosis as Part of Acute Bacterial Infection N B Gwyn. —p 535
Peptic Ulcer A S Kirkland —p 538
*System of Microscopic Tubules in Thyroid R R Fitzgerald —p 542
*Toxic Cirrhosis of Liver C I Connor —p 546
*Cutaneous Reactions to Flax and Linen in Bronchial Asthma and Hay Fever D Nicholson —p 552
Cyst of External Semilunar Cartilage of Knee Case J A Nutter and C L Blew —p 555
Vincent's *Disease* Infection Due to Fusospirillary Invasion F T Cadham —p 556
Bronchoscopic Method of Diagnosis and Treatment of Certain Disorders of Lungs and Bronchi A A Halliday —p 561
Ulcers and Nonpenetrating Wounds of Cornea R E Mathers —p 564
Canadian Hospital Efficiency S E Moore —p 567
New Instrument for Tucking Operations W T Gratton —p 571.
Pernicious Anemia W I Hamilton —p 572

Canadian Grown Digitalis—Hitherto all the digitalis preparations on the Canadian market have been prepared from English or German grown foxglove Some work recently completed in Henderson and Sparks' laboratory has shown that Canadian grown digitalis is quite up to the English standard in glucosidal content The Canadian leaves used in these investigations were grown in British Columbia, and were compared with a sample of English commercial leaf Tests made by both the standard frog and cat methods showed that the British Columbia sample had a potency equaling the English, and distinctly higher if grown on well fertilized ground (sodium nitrate) With such facts in hand it seems *quite possible that very shortly Canada may be able to grow* its own digitalis, and in time supply the demand of the entire Canadian medical profession

Coronary Thrombosis and Bacterial Infection.—In the two cases reported by Gwyn, it has seemed probable that suddenly occurring, serious cardiac disorder in the course of the infection was due to a coronary thrombosis, an infectious thrombosis of the same nature as the process seen more usually in the peripheral and cerebral vessels In both cases the symptoms and course make a picture identical with the types of the disorder as described by Herrick, save that as they were both febrile at the time of the accident, the fever spoken of as the fever of infarction could not be demonstrated, and an already elevated white cell count precluded the estimation of the leukocytosis of thrombosis

Microscopic Tubules in Thyroid—*The presence of a system* of microscopic capillaries in the thyroid gland is confirmed by Fitzgerald's studies The appearance of this system is described in different physiologic states of the normal gland, and in some pathologic states of the diseased gland

Toxic Cirrhosis of Liver.—Four cases *are recorded by* Connor which show the development both clinically and pathologically of the condition known as acute yellow atrophy of the liver into definite cirrhosis of the liver

Skin Sensitiveness to Flax and Linen.—Nicholson reports hypersensitiveness to flax and linen occurring in 4 4 per cent of a series of 158 cases A dilution of 1 1,000 of the protein in a skin scratch produced a wheal Injections of 0 5 cc of 1 100,000 produced asthma Four of the patients were hypersensitive to many substances, such as animal hairs, feathers, fruits and pollens Avoiding flax and linen did not, in any case, relieve the asthma Treatment with gradually increasing doses of flax was disappointing

Florida Med. Assoc. Journal, Jacksonville

13: 254 277 (May) 1927

Relation of Functions of Glands of Internal Secretion to Thinking, Feeling and Striving of Man L F Barker, Baltimore —p 254
Mechanical Aids in Estimating Cardiac Reserve H Caldwell Lake City —p 261
Treatment of Heart Disease M Mallory, Orlando —p 263
Congenital Hypertrophic Pyloric Stenosis E Jelks Jacksonville —p 268

Indiana State Med. Assoc. Journal, Ft. Wayne

20 · 175 206 (May) 1927

Diagnostic Puncture of Antrum of Highmore B D Ravdin, Evansville —p 175
Treatment of Club Foot R A Milliken, Indianapolis —p 179
*Relation of White Snakeroot to Human Milk Sickness A A Hansen, LaFayette —p 182
Diphtheria Mortality in Indiana W W Lee Indianapolis —p 187
Diphtheria Prevention in Indiana W F King, Indianapolis —p 189

White Snakeroot and Milk Sickness—Hansen investigated a number of farms in Indiana on which cases of human milk sickness occurred In every case it was possible to trace the cause of the trouble to the use of milk or butter from cows that had grazed in woodland pastures badly infested with white snakeroot In most of these pastures the snakeroot showed plain evidence of having been grazed on, and in most cases the animals have died after exhibiting symptoms typical of white snakeroot poisoning

Iowa State Med. Society Journal, Des Moines

17: 183 222 (June) 1927

Cardiac Clinic P D White, Boston —p 190
Early Diagnosis and Treatment of Cancer of Uterus R Peterson Ann Arbor Mich —p 196
Scarlet Fever Control J F Dyson, Des Moines —p 201
Plan for Unfolding Project of Applying Motion Pictures to Medical Education J F Montague, New York —p 204

Journal of Biological Chemistry, Baltimore

73: 1 369 (May) 1927

*Distribution of Electrolytes in Dogs Following Ligation of Ureters D W Atchley and E M Benedict, New York —p 1
*Microdetermination of Pentose in Yeast Nucleic Acid and Its Derivatives W S Hoffman, Baltimore —p 15
*Nitrogen Metabolism in Puerperium V J Harding and R C Montgomery, Toronto —p 27
*Influence of Kidney Function on Concentration of Certain Nonprotein Sulphur Compounds in Blood W Denis and L Reed New Orleans —p 41
*Effect of Sulphur on Concentration of Certain Sulphur Compounds in Blood and Urine W Denis and L Reed New Orleans —p 51
*Influence of Ultraviolet Light on Calcium and Phosphorus Metabolism in Milking Cows E B Hart, H Steenbock, H Scott and G C Humphrey, Madison, Wis —p 59
Use of Magnesium Perchlorate Trihydrate (Dehydrite) and Asbestos Sodium Hydroxide) in Gravimetric Metabolism Determinations for Water and Carbon Dioxide Absorption M O Lee and J B Brown, Columbus, Ohio —p 69
Nitrogenous Groups of Nucleic Acid H O Calvery and W Jones, Baltimore —p 73
Enzyme Uricase H O Calvery Baltimore —p 77
What Constitutes Adequate Series of Physiologic Observations? E L Scott New York —p 81
Quantitative Differentiation of Vitamins A and D I H C Sherman and M C Hessler New York —p 113
Portable Form of Manometric Gas Apparatus D D Van Slyke, Rochester, N Y —p 121
Carbon Dioxide Factors for Manometric Blood Gas Apparatus D D Van Slyke and J Sendroy Jr Rochester N Y —p 127
*Antirachitic Value of Irradiated Cholesterol and Phytosterol VII On Phosphorus and Calcium Balance A F Hess and E Sherman New York —p 145
*Human Milk Studies I Vitamins I G Macy, J Outhouse M L Long and A Graham Detroit —p 153
Id II Quantitative Estimation of Vitamin A I G Macy, J Outhouse, A Graham and M L Long, Detroit —p 175
*Id III Quantitative Estimation of Vitamin B I G Macy, J Outhouse A Graham and M L Long, Detroit —p 189
Id IV Vitamin A and B Content of Cow's Milk J Outhouse, I G Macy, V Brekke and A Graham Detroit —p 203
Influence of Irradiation on Oxidation Products of Cholesterol F W Schlutz, M R Ziegler and M Morse Minneapolis —p 209
Solubilities of Antiscorbutic Factor Present in Lemon Juice E B Vedder and W E Lawson, Edgewood, Md —p 215
*Blood Chloride Methods J J Short and A D Gellis New York —p 219
Kinetics of Invertase Action J M Nelson and H W Larson New York —p 223
Stimulation of Sugar Regulating Mechanism as Shown by Duplicate Blood Sugar Curves W G Lennox Boston —p 237
*Blood as Physicochemical System IV D B Dill, C van Caulaert, L M Hurxthal J L Stoddard, A V Bock and L J Henderson, Boston —p 251
Walden Inversion IX Mechanism of Hydrolysis of Optically Active Propylene Oxide P A Levene and A Walti New York —p 263
Is Insulin Inactivated by Glucose? V du Vigneaud, Rochester, N Y —p 275
Effects of Protein Split Products on Metabolism I Fraction Extracted by and Precipitated in Butyl Alcohol (Fraction I) D Rapport and H H Beard, Cleveland —p 285
Id II Individual Amino Acids of Fraction I of Butyl Alcohol Extraction and Their Relation to Specific Dynamic Action of Protein D Rapport and H H Beard Cleveland —p 299
Glutelins I α and β Glutelins of Wheat (Triticum Vulgare) F A Csonka and D B Jones Washington D C —p 321
Action of Alkali and Hydrogen Peroxide on Glyoxals T E Friedemann St Louis —p 331
*Determination of Lactic Acid T E Friedemann M Cotonio and P A Shaffer St Louis —p 335
Condenser Unit for Determination of Lactic Acid H A Davenport and M Cotonio St Louis —p 359
Cholesterol Content of Hair, Wool and Feathers H C Eckstein, Ann Arbor, Mich —p 363

Effect of Ligation of Both Ureters—A study has been made by Atchley and Benedict of the acute renal insufficiency produced in dogs by ligation of both ureters Profound changes occur in the distribution of the electrolytes of the blood and tissues increase in phosphates plus sulphates, decrease of chlorides plus carbonates Whole blood changes parallel those of serum, and most of the tissue analyses showed that tissue chloride changed in the same direction as serum chloride

Determination of Pentose—A micromethod of determining pentose in free or combined form has been devised by Hoffman, which is based on the methods of Pervier and Gortner, and Youngburg and Pucher A study of the pentose distribution in yeast nucleic acid confirms the prevailing idea that yeast nucleic acid contains the same number of purine elements as it does pyrimidine elements

Nitrogen Metabolism in Puerperium.—Harding and Montgomery assert that high calory, high carbohydrate diets do not check the normal involution of the human uterus The nitrogen loss and the creatinuria of the puerperium are referable to the processes attending the onset of lactation rather than to the involution of the uterus, though the latter factor is not necessarily excluded

Influence of Kidney Function on Sulphur Compounds—In dogs poisoned with uranium nitrate, it was found by Denis and Reed that the concentration of the inorganic sulphates and of the neutral sulphur fraction of the blood was directly dependent on the volume of urine excreted, and that in the case of animals with diuresis whose kidneys had been injured to such an extent that the nonprotein nitrogen of the blood was much increased, there was frequently found a large decrease in the inorganic and total sulphates, and a less striking fall in the neutral sulphur fraction As the volume of urine diminished to normal or subnormal values the concentration of inorganic sulphate and of neutral sulphur slowly rose, and in some cases attained values from 100 to 300 per cent above the normal concentration

Effect of Sulphur on Sulphur Compounds—Examination made by Denis and Reed of the urine of animals that had been fed a standard ration to which had been added powdered sulphur to the extent of 0 5 Gm per kilogram daily showed that an average of only 10 per cent of the administered sulphur had been absorbed It is assumed that the observed increases in total urinary sulphur are due to the oxidation of hydrogen sulphide formed in the intestine by the bacterial action on the sulphur As these increases in total urinary sulphur amounted in some experiments to several hundred per cent of the basal value it would appear probable that a portion of the sulphur containing bodies of the urine may not originate exclusively from intracellular metabolism of protein fragments but may arise in part from the oxidation of the intestinal hydrogen sulphide. Analysis of the blood showed in some cases an increase in the nonprotein sulphur compounds and in others a marked decrease.

Effect of Ultraviolet Rays on Calcium and Phosphorus Metabolism.—Apparently ultraviolet rays have little, if any, direct influence on the calcium and phosphorus metabolism of dairy cows, on milk production or on the calcium and phosphorus content of the milk secreted. It is suggested by Hart et al. that the cow derives its antirachitic vitamin from the feed, and is different in this respect from man, the goat, the chicken, and probably the rat, all of which can be favorably influenced directly by the short wave lengths of solar radiation.

Antirachitic Value of Irradiated Cholesterol.—Experiments made by Hess and Sherman indicate that irradiated cholesterol, when given by mouth or subcutaneously, is unable to raise the calcium content of the blood above the normal. Nor is it able to prevent the fall of calcium brought about by parathyroidectomy. Metabolism tests show, however, that irradiated cholesterol, when added to a rickets-producing ration which is low in phosphorus, brings about a definite increase in the retention of phosphorus and calcium.

Estimating Vitamins in Human Milk. — A standardized technic for the quantitative estimation of the vitamin content of human milk is presented by Macy et al. A new method for testing the vitamin A content of foods is described. The effectiveness of the vitamin B-free ration is discussed. Data are presented which indicate the presence of two factors in yeast, instead of the one hitherto recognized vitamin B.

Antineuritic Potency of Human Milk.—From the data presented by Macy et al., it is concluded that the antineuritic potency of mixed human milk, at least from a group of women receiving the average American dietary, is very slight. It is possible that many mothers do not supply enough of vitamin B to their babies. For the economy of the mother's nutrition and to safeguard her offspring, food materials rich in this important food component should form a prominent part in the diet of pregnant and lactating women. Food substances rich in vitamins should be introduced early in the nursing period of the infant, whether it be breast or artificially fed.

Blood Chloride Methods.—An adaptation of the McLean-Van Slyke iodometric principle to the Folin-Wu tungstic acid filtrate is described by Short and Gellis. This is believed to be preferable to the Volhard titration. The proposed method possesses the advantages of being short, simple and accurate.

Blood as Physicochemical System.—Dill et al. present the results of a comparative study of the respiratory functions of the blood in two normal resting men and in a horse.

Determination of Lactic Acid.—A procedure is described by Friedemann et al. for the determination of lactic acid based on oxidation.

Journal of Clinical Investigation, Baltimore

4: 149-306 (June 20) 1927

*Velocity of Blood Flow: III. Relation to Other Aspects of Circulation (1) in Rheumatic and Syphilitic Heart Disease. H. L. Blumgart and S. Weiss, Boston.—p. 149.

Id.: IV. (2) in Arteriosclerosis and Arterial Hypertension. H. L. Blumgart and S. Weiss, Boston.—p. 173.

*Id.: V. Physiologic and Pathologic Significance. H. L. Blumgart and S. Weiss, Boston.—p. 199.

*Alterations in Liver Function as Index of Toxemia in Pneumococcus Lobar Pneumonia. B. R. Harris, New Haven, Conn.—p. 211.

*Effect of Epinephrine on Partition of Foodstuffs in Obese and Normal Individuals. C. I. Krantz and J. H. Means, Boston.—p. 225.

*Excretion of Albumin and Globulin in Nephritis. A. Hiller, J. F. McIntosh and D. D. Van Slyke, New York.—p. 235.

Influence of Edema on Capacity of Blood Plasma to Modify Fluid Imbibition by Muscle. E. L. Compere, Chicago.—p. 253.

*Oxygen Consumption, Oxygen Debt and Lactic Acid in Circulatory Failure. J. Meakins and C. N. H. Long, Montreal.—p. 273.

*Concentration of Urea in Blood of Normal Individuals. E. M. MacKay and L. L. MacKay, San Francisco.—p. 295.

Velocity of Blood Flow in Syphilitic Heart Disease.—Observations made by Blumgart and Weiss on syphilitic patients indicate that there is a definite relationship between the degree of circulatory sufficiency and the arm to arm velocity of blood flow, and that the latter measurement is an objective and in general a quantitative index of the state of the circulation. Observations before, during and after the disappearance of the signs of chronic passive congestion indicate that the circulation time and the vital capacity may show deviations from the normal before the clinical signs of congestive failure appear. In patients whose condition is improving, the velocity of the blood flow and the vital capacity may increase before the clinical evidences of chronic passive congestion disappear and the patient has regained full circulatory compensation. Contrary to general experience, certain patients with syphilitic aortitis, although they exhibit symptoms of breathlessness, precordial pain and lowered vital capacities, nevertheless have normal velocities of blood flow. These observations support the opinions of those investigators who believe that pain and dyspnea in patients with syphilitic aortitis may be due to a reflex mechanism rather than to chronic passive congestion.

Measuring Mean Velocity of Blood Flow.—Evidence is presented by Blumgart and Weiss that the arm to arm circulation time in normal resting individuals is a measure of the mean velocity of blood flow. Clinical measurements and the experimental evidence of others indicate that the path traversed by the radium C is uniform from patient to patient. With the onset of circulatory insufficiency, the vital capacity shows a decrease somewhat earlier than the blood flow, whereas the rise in venous pressure occurs only when the circulatory failure is considerably more pronounced.

Effects of Pneumococcus on Liver Function.—In order to determine the effects of pneumococcus lobar pneumonia on hepatic function, dye elimination tests, serum bilirubin determinations and urine urobilinogen and urobilin tests were performed by Harris on thirty patients. Dye retention was found to occur consistently, the degree increasing as the disease progressed. A definite relationship between the severity of the infection (as measured by outcome) and the degree of liver dysfunction was not found. When considered according to the type of infecting pneumococcus, a suggestive relationship was found in the pneumonias of types I and III. Following recovery, dye retention was not present, indicating that the liver injury was not permanent. Urobilinuria was consistently present during the acute febrile period of the disease. The serum bilirubin was within normal limits in all cases except one, a patient with manifest jaundice. Impairment of function in type III pneumonias, with a mortality of 87 per cent, was not greater than in types I, II and IV, with approximately 18 per cent mortality. An investigation of the liver function in a heterogeneous group of infectious diseases revealed either minimal alterations of liver function, as contrasted with the group of pneumonias, or none at all. This is taken to indicate that fever or infection, in themselves, are not sufficient to alter liver function markedly; rather, that the changes found in the pneumococcus pneumonias are probably due to an accompanying toxemia which has a specific affinity for the liver. Significant alterations of liver function were not found in cases of advanced pulmonary tuberculosis, indicating that structural injury of the lungs is not alone responsible for the changes found in the group of pneumonias.

Effect of Epinephrine on Foodstuffs.—Experiments made by Krantz and Means tend to show that obese individuals have less glycogen and more fat available for metabolism. When a metabolic stimulant, such as epinephrine, is given, the most readily available foodstuff is oxidized; and in the case of the obese individuals, this available food is fat.

Excretion of Proteins in Nephritis.—Whether the nature of the protein mixture excreted in the different types of nephritis is related to the type and severity of the disease was the subject of a study by Hiller et al. The albumin: globulin ratio of the urine proteins was found usually above 10 in nephrosis; between 5 and 10 in acute nephritis, with a low ratio during the early stage followed by a higher ratio during recovery, and usually below 5 in the advanced stages of chronic glomerular nephritis, with urea retention and impaired kidney function. In one case of amyloid nephrosis the ratio was very low, 1.5, in accord with the previous publications. The low ratios in advanced chronic nephritis were associated with low urea concentration indexes and poor prognoses Of fifteen patients observed with average urinary albumin globulin ratios below 5, all but two died in less than eighteen months, and these two have shown progressive decrease in renal function

Lactic Acid and Circulatory Failure.—Meakins and Long found that severe circulatory failure is accompanied by an increased rise in the level of the resting lactic acid in the blood This accumulation of lactic acid in the blood is in proportion to the severity of the circulatory failure

Normal Blood Urea Concentration—The MacKays assert that in general the blood urea concentration has a tendency to fall during the night, only to rise again during the following day Certain results, although not conclusive, suggest that there is a tendency for the blood urea concentration to increase with age

Journal of Comparative Psychology, Baltimore

7: 237 284 (June) 1927

Reactions of Snakes to Light and Touch White Light A M Reese, Morgantown —p 237
Reproductive Behavior of Guinea Pig I Normal Mating Behavior C M Louttit New Haven, Conn —p 247
Differentiation of Emotional Responses in Infants M Sherman, Chicago —p 265

Journal of Immunology, Baltimore

13: 319 383 (May) 1927

Relation of Anaphylaxis to Immunity III Specificity of Fixed Tissue Antianaphylatoxic Immunity Factor W H Manwaring, H D Marino, T C McCleave and T H Boone, San Francisco —p 319
Factors Governing Production of Diphtheria Toxin in Artificial Culture Mediums C S Gibbs and L F Rettger, New Haven Conn —p 323
*Skin and Mucous Membrane Reactions in Hay Fever L B Baldwin, New York —p 345
Relation of Anaphylaxis to Immunity IV Normal and Anaphylactic Detoxication of Specific Foreign Proteins W H Manwaring D H Marino T C McCleave and T H Boone, San Francisco —p 357
Results from Use of Blood Clot Method of Immunization J F Anderson and G F Leonard, New Brunswick, N J —p 365
Antigenic Properties and Virulence Among Mammalian Tubercle Bacilli S Mudd and J Furth, Philadelphia —p 369

Skin and Mucous Membrane Reactions in Hay-Fever—Routine skin tests were performed by Baldwin over a period of from two to four years in thirty-six individuals who had either a unilateral or bilateral inheritance of hay-fever One person gave a positive skin reaction without clinical signs of hypersensitiveness, and five developed positive skin reactions while under observation and also contracted hay-fever The skin reaction was negative at the onset of hay-fever in one case, but became positive the following season It was less intense the first season of hay-fever, and became more intense the following season in another case In the other three cases the skin reactions became positive shortly before or during the onset of hay-fever, and have not varied since A correlation could not be made in these five cases between the intensity of the skin reaction and the mucous membrane sensitivity Pollen extracts were successfully used to test for mucous membrane sensitivity in these six cases

Journal of Industrial Hygiene, Baltimore

9: 169 216 (May) 1927

*Acute Respiratory Infections Among Motormen and Conductors H S Diehl, M Connelly and D D Turnacliff, Minneapolis —p 169
Cardiac Patient in Industry H E Mock and S P Moore, Chicago —p 176
*Metal Fume Fever III Effects of Inhaling Magnesium Oxide Fume P Drinker R M Thomson and J L Finn, Boston —p 187
*Basophilic Material in Benzene Poisoning W D Paul, A Friedlander and C P McCord, Cincinnati —p 193

Acute Respiratory Infections Among Street Car Men—A study covering a six year period was made by Diehl et al of the incidence of acute respiratory infections among motormen and conductors employed by a large street railway company During this period the conductors lost more time from the so-called acute cold than did the motormen The greater loss of time by conductors was due chiefly to a large number of conductors having colds, although they also showed more repeated infections and a slightly greater average loss of time from each infection Of the many factors which have been suggested as contributory in the development of colds, the greater exposure to the public seems to be the only one in which there would be a marked difference between a group of motormen and a group of conductors The acute contagious diseases attacked more motormen than conductors during this period, which would seem to indicate that most of these infections were contracted when the men were off duty

Metal Fume Fever—Instances of febrile reactions analogous to those caused by breathing freshly generated zinc oxide fumes are reviewed by Drinker et al The substances mentioned include zinc oxide powder, copper (oxide?), sprays of compounds of silver, mercury, iron, cobalt and antimony, and fumes from burned cadmium It is probable that the fumes from the burning of iron, nickel and aluminum in the electric arc would also cause the same general type of febrile reaction It was found that the inhalation of mild doses of magnesium oxide (a fume product of a light metal generated by burning magnesium ribbon) produces a leukocytosis and a fever resembling those caused by the heavy metals Although magnesium oxide produces fume fever much less readily than does zinc oxide, it is believed that severer doses than those taken in these experiments would result in severer reactions

Basophilic Material in Benzene Poisoning—The presence of basophilic material in red blood cells in quantities exceeding normal is reported by Paul et al in animals (cats rabbits and guinea-pigs) to which benzene has been administered Animal experiments without benzene administration, but with bleeding, afford some evidence that this basophilic material is associated with regeneration of the red blood cells Results of examinations of the blood in a number of cases of benzene poisoning, too few to warrant any conclusions, suggest that basophilic substance in quantities above normal occurs in the blood of human beings affected by benzene

Jour. Pharmacol. & Exper. Therap., Baltimore

31: 87 199 (June) 1927

Chemotherapy in Bacterial Infections II Relation Between Chemical Constitution and Chemotherapeutic Action in Staphylococcic Infections E L Walker and M A Sweeney San Francisco —p 87
Rat Poisoning Substance in Red Squills F R Winton London —p 123
Contrast Between Actions of Red and White Squills F R Winton, London —p 137
Electrocardiographic Studies of Action of Alpha Lobelin and Epinephrine on Mammalian Heart R W Whitehead and D C Elliott Boulder, Denver —p 145
*Fate of Morphine Which Has Been Injected into Animal Body Y Teruuchi and S Kai, Tokyo Japan —p 177

Fate of Injected Morphine.—Teruuchi and Kai conclude that morphinism is due to the acquired power of the living organism to destroy morphine and to excrete it, besides the augmented power to reserve it in a large amount by the muscles, so that even though a large amount of it should be introduced into the body all at once, it can be prevented from immediately attacking the central nervous system

Kentucky Medical Journal, Bowling Green

25 183 254 (May) 1927

Puerperal Convulsions G G Thornton Lebanon —p 185
Treatment of Psychoneurotic J J Moren Louisville —p 190
Cesarean Section Low Operation S D Breckinridge, Lexington —p 194
Hypertension B S Rutherford, Bowling Green —p 198
Appendicitis in Children C A Vance Lexington —p 201
Anesthetic of Choice in Obstetrics J T Reddick, Paducah —p 205
Glaucoma T L Bailey Madisonville —p 209
Calculus Anuria J Bate Louisville —p 211
Blood Stream Infection Role Played by Pneumococcus F L Koontz, Louisville —p 219
Carcinoma of Thyroid J P Keith and D Y Keith Louisville —p 226
Etiology of Exophthalmic Goiter W E Gardner, Louisville —p 227
Pathology of Thyroid F P Strickler, Louisville —p 229
Hypothyroid States C Pope, Louisville —p 232
Hyperthyroidia W F Boggess Louisville —p 237
Goiter Prophylaxis J R Morrison Louisville —p 239
Id Surgical Treatment J R Wathen Louisville —p 242
Id Medical Treatment J M Morris Louisville —p 243

25: 255 332 (June) 1927

Gallbladder Surgery L W Frank Louisville —p 257
Serums and Vaccines R E Smith Henderson —p 261
Massive Collapse of Lung D Y Keith T P Keith and J C Bell, Louisville —p 268
Scarlet Fever Etiology and Epidemiology L P Whistler, Louisville —p 273
Id Symptoms, Types and Complications J S Lutz Louisville —p 274

Id Prevention and Treatment J W Bruce, Louisville—p 276
Value of External Examination in Connection with General Diseases I H Simpson Louisville—p 280
Granuloma Fungoides Case J C Bell, Louisville—p 283
Vesicovaginal Fistula Three Cases J W Price and R G Spurling, Louisville—p 286
Septicemia Complicating Acute Bilateral Mastoiditis A L Bass, Louisville—p 289
Meniere's Disease Case M C Baker Louisville—p 291
Surgical Treatment of Duodenal Ulcer M J Henry Louisville—p 293
Gallbladder Visualization H C Herrman Louisville—p 298
Fatal Hemorrhage from Stomach and Bowels Following Appendectomy A D Willmoth Louisville—p 301
Acute Coronary Occlusion E F Horine Louisville—p 304
Unsolved Problems of Otolaryngology J Peabody, Louisville—p 309
Treatment of Syphilis B W Whitfield Harlan—p 320
Backache J L Goldthwait Boston—p 324
Abscess About Rectum H A Gilliam, Bardwell—p 326

Medical Journal and Record, New York

125. 653 720 (May 18) 1927

Birth Control Movement R I Dickinson New York—p 653
Library Researches in Physical Therapy G B Lake Chicago—p 657.
Tonsil Electrocoagulation (Diathermy) G A Dillinger, Pittsburgh—p 659
Deafness as Clinical Clue A Roth, New York—p 662
Correction of Nasal Disfigurements by Readjustment of Nasal Tissues J F Sheehan New York—p 664
Thermometer in Bladder L Nagorsky New York—p 666
Case of Neurosyphilis G B Despraiois Los Angeles—p 667
Cancer XVI Predisposition W Meyer New York—p 668
Backache J W Shuman Los Angeles—p 671
Treatment of Hernia by Subcutaneous Injection I Mayer, Detroit—p 672
Medical Phases of Child Behavior I S Wile New York—p 674
Treatment of Fractures in Surgical Clinic L M Jacobs Philadelphia—p 675

125: 721 788 (June 1) 1927

Conservative Treatment of Chronic Otitis Media Purulenta I Horn, New York—p 721
Deafened Child in Elementary Schools Economic and Educational Aspects H Hays New York—p 723
Causes of Failure of Specific Vaccine Treatment and Their Correction M Solis Cohen Philadelphia—p 727
*Simple Determination of Blood Sugar M Adler, Carlsbad, Czechoslovakia—p 730
Early Mobilization in 'Tennis Leg' F Christopher, Winnetka Ill—p 731
Cancer XVII Predisposition Modern Civilization as Factor W Meyer, New York—p 732 C'td
Mastoid Phobia G B McAuliffe New York—p 735
Vogue of Quackery A W Meyer, Stanford University, Calif—p 736
Therapeutic Uses of Radium Emanation Cervical Cancer J Muir New York—p 739
Cycles of Thought in Biologic Science III Teleology and Heredity F Wright Pleasantville N Y—p 741
Complete Prolapse of Rectum C J Drueck, Chicago—p 747
Two Cases of Intestinal Obstruction R A Leonardo Rochester, N Y—p 750
Chronic Appendicitis with Upper Abdominal Symptoms S I Immerman Philadelphia—p 753
Rational Diet in Typhoid A Jarotzky, Moscow—p 756
Stomach Ache (Right Upper Quadrant) J W Shuman Los Angeles—p 759
Composite American Dietary J Aulde, Philadelphia—p 760

Determination of Blood Sugar.—The new standard Fehling solution used by Adler is prepared by taking copper sulphate solution and alkaline sodium tartrate solution in equal amounts, say 5 cc of each, and pouring them into a graduated cylinder (100 cc) To this mixture is added 89 cc of an approximately 10 per cent solution of potassium hydroxide, in which 10 Gm of potassium chloride has been dissolved by careful heating, and which contains 1 cc of a 5 per cent solution of potassium ferrocyanide This total of 100 cc forms a modified one-tenth Fehling solution By adding 400 cc of distilled water, half a liter of fiftieth-normal solution is obtained, which represents Adler's new standard solution About 2 Gm of purest anhydrous dextrose is dissolved in 10 cc of distilled water, 2 cc of this solution is placed in a small porcelain dish of from 7 to 8 cm diameter and about 20 c of distilled water is added This solution is then heated quietly over a slow burner From a buret of 10 cc capacity, in which each cubic centimeter is subdivided into tenths, and conveniently arranged over the dish, the standard solution is run drop by drop into the dish at intervals of a few seconds until the first drop develops quite a slight bluish tinge, which becomes more distinct when the liquid cools for about a minute or two The number of cubic centimeters of the standard solution needed is marked and the calculation is made as follows The two cubic centimeters of the sugar solution may contain 4 mg of sugar, the complete reduction of the copper may have required 19 6 cc of the standard solution, therefore, 1 cc of the standard solution equals 0 203 mg of sugar

New York State Journal of Medicine, New York

27: 583 640 (June 1) 1927

Thoracic Surgery C Eggers, New York—p 587
Relation of Upper and Lower Respiratory Tract Diseases M E Newman Buffalo—p 592
*Penetrating Gastric Ulcer H A Rafsky, New York—p 593
Postoperative Parathyroid Tetany Controlled by Use of Collip's Parathyroid Hormone A H Noehren, Buffalo—p 596
Maimonides' Treatise on Hemorrhoids L J Bragman, Syracuse—p 598
Early Manifestations of Coronary Disease D Greenberg, New York—p 601
Kahn Test for Syphilis Compared with Wassermann Test R J Shafer, Corning, New York—p 605

Penetrating Gastric Ulcer.—In the two cases reported by Rafsky the illness in one was of ten days' duration and in the other, fourteen days Both of these patients were emphatic in their assertions that they never had any gastric disturbances prior to this

Public Health Reports, Washington, D. C.

42: 1355 1416 (May 20) 1927

*Iodization of Public Water Supplies for Prevention of Endemic Goiter. R Olesen, Cincinnati—p 1355
*Malaria Among Mexican Cotton Pickers Imported into Mississippi. M A Barber, Memphis, Tenn, and C P Coogle, Greenwood, Miss.—p 1368

42: 1417 1487 (May 27) 1927

Public Health Organization of Denmark T Parran, Jr, Washington, D C—p 1417

Iodization of Water to Prevent Goiter.—The iodization of public water supplies, in its present state of development, is not recommended by Olesen for widespread adoption However, the measure appears to be theoretically sound and promising as a means of reducing goiter incidence when correctly used The chief points in its favor are its comparatively low per capita cost, its apparent harmlessness even to existing goiters, and its wide range of applicability The need for more precise experimental work, and comprehensive control experiments with careful and repeated thyroid examinations, is emphasized

Malaria Among Mexican Laborers—The danger of malaria among temporary laborers, although varying greatly with localities and seasons, Barber and Coogle state, exists in sufficient amount to warrant attention With the increasing scarcity of labor, it should prove of financial advantage to employers to protect imported labor against malaria

Rhode Island Medical Journal, Providence

10: 81 96 (June) 1927

Conservation of Eyesight H C Messinger, Providence—p 81.
Autonephrectomy V J Oddo, Providence—p 82
Surgical Indications of Inflammatory Diseases of Gallbladder. A P. Heineck, Chicago—p 87

U. S. Veterans' Bureau Med. Bull., Washington, D. C.

3: 409 523 (May) 1927

Late Results of Fractures of Long Bones J B Walker—p 409
Treatment of Neuropsychiatric Claimant J A Pringle—p 428
Value of Honesty and Sincerity in Treatment of Paranoid Praecoxes H L Flowers—p 434
Psychotic Heredity of Psychotics C L Whitmire—p 439
Tuberculous Meningitis G C Daniel—p 448
Importance of Proper History Taking in Tuberculosis Hospitals C E Starns—p 450
Tuberculous Patient as Surgical Risk J D Brooks and C E Yount.—p 453
Ultraviolet Radiation and Diathermy in Treatment of Ear Conditions C Bates—p 456
Medical Social Service in Hospitals F N Gordon—p 460
End of Medical Curiosity Case J G Cullins—p 463
Necessity for Closer Cooperation Between Medical and Dental Examiners as Relating to Oral Infection S H Campbell—p 466
Amebic Abscess of Liver with Rupture into Lung H R Lipscomb—p 468
Simulated Mastoiditis Relieved by Sphenoidectomy Three Cases P H Finot—p 472
Development of High Standards of Nursing in U S Veterans' Bureau. M A Hickey—p 494
Occupational Therapy D M Gardner—p 500
Physiotherapy from Nurse's Standpoint M K Dawson—p 503

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Anesthesia, Manchester

4: 178-220 (April) 1927

Pioneers of Modern Anesthesia. J. F. W. Silk.—p. 178.
Emergencies in Anesthetics. C. T. W. Hirsch.—p. 182.
*Temperature Variations During General Anesthesia. K. H. Watkins and S. R. Wilson.—p. 201.
*Anesthetic Fatality. G. F. R. Smith.—p. 207.
Brachial Plexus Block. E. M. Livingston and H. Wertheim.—p. 209.

Temperature Variation During Anesthesia.—Watkins and Wilson assert that there are usually two phases in the temperature change in a patient under ether anesthesia, the rate of the fall of the temperature being greater during the first phase. The temperature usually begins to fall in from five to eight minutes after the administration of ether has been started. The rate of the fall of the temperature increases with a light anesthesia, and decreases with a deep anesthesia. Pyrexial patients, or patients suffering from an acute condition, show a steady rise of temperature in the later stages.

Anesthetic Fatality.—The point of interest in Smith's case was a sighing respiration called forth by epinephrine and ventricular fibrillation, which has not been noted previously in the human subject.

British Medical Journal, London

1: 823-862 (May 7) 1927

Constitutional Factor in Disease. A. F. Hurst.—p. 823.
*Tuberculin: Is It Specific? F. G. Griffiths.—p. 827.
*Peptoned Serum Agar in Asthma. A. G. Auld.—p. 829.
Treatment of Diabetics as Hospital Outpatients. C. J. C. Earl.—p. 831.
*Severe Case of Hypoglycemia. H. C. Barlow.—p. 833.
*Rupture of Heart. J. S. Goodall and H. B. Weir.—p. 834.
Case of Gummatous Colitis. R. Maingot.—p. 835.
Ileus Due to Impaction of Fig. R. Chalmers.—p. 836.
*Diagnosis of Gangrene of Small Intestine. B. W. Rycroft.—p. 836.

Specificity of Tuberculin.—Griffiths presents evidence in support of the view that tuberculin is specific in diagnosis and in treatment.

Peptoned Serum Agar in Asthma.—Auld injects up to 3.5 cc. of a 5 per cent peptone solution intravenously in asthma cases as often as indicated up to sixteen times. He reports good results and no untoward reactions.

Severe Hypoglycemia.—Barlow reports that the urine of his patient, aged 16, was "full of sugar," and that "the house reeked with the smell of acetone." He was given insulin. At the end of seventy-eight hours he had received 730 units of insulin with glucose. He suddenly began to "look strange," and was found lying on his back, with the color good and the eyes closed. The pulse was full and slow, and he did not show any sign of consciousness. Suddenly he uttered a long cry, the face twitched, and spasms began round the mouth, spreading to the other facial muscles and finally becoming general, ending in complete tonus and opisthotonos. He stopped breathing, frothed at the mouth, and became very blue. Artificial respiration was resorted to and maintained for ten minutes; 2 ounces of urine was drawn off and found to be sugar free. A sterile solution of glucose (15 Gm. in 100 cc.) was run into the median basilic vein. After this he breathed naturally and spasm ceased. He was still deeply unconscious, and 15 Gm. more of glucose was run in. He regained consciousness rapidly. No further convulsions occurred. Eventually, he went out of the hospital sugar free without insulin on a diet of nine lines of Lawrence's "line ration" scheme. He was gaining weight and feeling well.

Rupture of Heart.—Goodall and Weir analyzed eighteen cases. Twelve of these cases were in men and two in women; the average age of the men was 69 and of the women 69.5. Two of these patients died in bed; three died after definite exertion, and nine died after no apparent special effort. As regards the site of the rupture, in eight cases there was rupture of the anterior wall of the left ventricle; in three cases the rupture was in the posterior wall of the left ventricle, while in two cases the right ventricle was ruptured. In every case the coronary arteries were calcified, while in four cases a definite obstruction existed; in one case antemortem clot was present. There was no history of previous heart disease in the men, except pains in the chest in five cases, two of which dated back only three and six days, respectively.

Gangrene of Small Intestine.—In Rycroft's case there was fecal vomiting with persistent passage of flatus and absence of distention. When the abdomen was opened, much foul-smelling fluid gushed out, and an almost complete gangrene of the small intestine was found from blockage of the superior mesenteric artery.

Journal of Tropical Medicine and Hygiene, London

30: 97-112 (April 16) 1927

Tropical Lacunae. A. Balfour.—p. 97.
Diagnosis of Liver Abscess. P. Manson-Bahr.—p. 106.

30: 113-124 (May 2) 1927

Etiology and Prophylaxis of Mental Irritability in Europeans in Tropics. M. Carthew.—p. 113.
Incidence of Amebic and Helminthic Infections in Kano and Katsina Cities, Northern Nigeria. W. E. McCulloch.—p. 117.

30: 125-132 (May 16) 1927

*Infection with Nonmotile Strain of B. Typhosus in Person Previously Inoculated with T.A.B. Vaccine. R. G. Archibald.—p. 125.
Chronic Bronchospirochetosis with Acute Exacerbation. R. W. Mendelson.—p. 126.
Stovarsol in Treatment of Malaria. M. Freiman.—p. 127.
Normal Sexual Life. F. G. Cawston.—p. 128.

Infection with Nonmotile Typhoid Bacillus.—The organism isolated by Archibald by hemoculture and also by stool culture gave all the biochemical reactions of *B. typhosus;* showed a specific agglutination with *B. typhosus* serum in a dilution of 1:5,000 (titer 1:10,000), and failed to agglutinate with other specific serums, including those of the dysentery group. It differed from the usual *B. typhosus* strain by reason of its nonmotility. Numerous cultures of the bacillus on various mediums at different stages of growth were examined repeatedly with negative results as regards evidence of motility. Moreover, smear preparations stained by special methods failed to demonstrate the presence of flagella; it appears reasonable to infer that the organism was an unusual strain of *B. typhosus.* Clinically, the case was of interest in view of the absence of the symptoms usually associated with an enteric infection; previous and recent inoculation with T. A. B. vaccine may have been responsible for masking the symptoms.

Lancet, London

1: 1061-1114 (May 21) 1927

Diverticula of Alimentary Canal. B. Moynihan.—p. 1061.
*Multiple Diverticula of Colon. E. I. Spriggs and O. A. Marxer.—p. 1067.
*Causes of Blindness Among Pupils of School for Blind, Swiss Cottage. A. H. Thompson.—p. 1075.
Cor Triloculare Biatria. E. F. W. McCrea.—p. 1077.
Squamous-Celled Epithelioma of Bronchus Illustrating Lymphatic Permeation. D. M. B. Evans.—p. 1077.
Giddiness in Neurasthenia. H. M. Walker.—p. 1078.

Diverticulosis of Colon.—Some stage of diverticulosis of the large intestine was found by Spriggs and Marxer in 10 per cent of 1,000 consecutive patients in whom a roentgen-ray examination of the alimentary canal was made, two men being affected to one woman. Since half the individuals with small diverticula of the colon do not suffer any inconvenience therefrom, Marxer thinks that they are probably present in a not inconsiderable proportion of the general population over 50 years of age. The condition has been described in children, but is rare; the youngest patient in this series was 25. One hundred and sixty-six consecutive cases are analyzed. The pelvic colon was affected in 120 cases: the descending colon in seventy-nine; the ascending and transverse colon, in thirty-three cases each and the whole colon in twenty-four cases.

Etiology of Blindness.—Two hundred and fifty-five blind persons, mostly under 25 years of age, were seen by Thompson. Ophthalmia neonatorum was the cause in fifty-seven cases; optic atrophy in thirty-seven; syphilis in thirty; congenital cataract in thirty-one; congenital causes other than cataract in thirty-four; disease in thirty-seven; accidents in eight and myopia in twenty-one. Venereal diseases in the parents was the cause of the blindness in eighty cases.

Royal Soc. of Trop. Med. & Hygiene Trans., London

20: 487-558 (April 27) 1927

Old-Time Typhus in Britain. MacArthur.—p. 487.
Sodoku from Cat Bite in British Guiana. G. Giglioli.—p. 504.
Origin of Yaws in Assam. G. C. Ramsay.—p. 506.
*Serum-Formaldehyde Reaction in Leprosy. W. K. Dunscombe.—p. 512.
Loa Loa Infection in Central Equatorial Africa. G. C. Low.—p. 514.
*Rationale of Intravenous Hypertonic Saline Injections in Treatment of Cholera. J. W. Tomb and G. W. Thompson.—p. 516.
*Criticism of Hypertonic Salines in Treatment of Cholera. L. Rogers.—p. 522.
Relapsing Fever in Anglo-Egyptian Sudan. D. Riding and T. W. Macdowell.—p. 524.
Yellow Fever in Lagos, Nigeria, During 1926. A. B. Aitken and E. C. Smith.—p. 530.
Periappendicular Abscess in Muganda in Entebbe Civil Hospital: Case. S. Forrest.—p. 552.
*Relation of Yaws and Goundou. C. C. Chesterman.—p. 554.

Serum-Formaldehyde Reaction in Leprosy.—The results of the serum-formaldehyde reaction in thirty-eight cases of leprosy are given by Dunscombe. The test is regarded as being unreliable as a possible method of diagnosis, or prognosis, in cases of leprosy.

Opium and Saline Injections in Cholera.—Tomb and Thompson regard the teaching of Rogers that opium is contraindicated in the early stages of cholera, and that an expectant policy of "wait and see" should be adopted until collapse has manifested itself and saline injections become imperative, as both harmful and erroneous. From the carefully compiled records of hundreds of cases of cholera treated by various methods over the last five years, it has been abundantly and indisputably proved that treatment solely by carminative "cholera mixtures," generally containing some preparation of opium, is of great and unquestionable value, the mortality rate in cases of all degrees of severity, including a majority of cases already collapsed, treated by such mixtures being approximately 50 per cent, as compared with a constant annual mortality rate of approximately 90 per cent in wholly untreated cases.

Salines in Cholera.—In reply to Tomb and Thompson, Rogers shows that the hypertonic salines alone gave a reduction of mortality of 45 per cent, and his fully developed system of treatment with the addition of permanganates and alkalis (the hypertonic salines being a most essential part) one of 65 per cent, so that deaths were reduced by almost two-thirds.

Relation of Yaws and Goundou.—Chesterman reports a case of goundou which strongly confirms the evidence that is accumulating in favor of this condition being only one of the many manifestations of tertiary yaws.

South African Med. Assoc. Journal, Cape Town

1: 157-184 (April 9) 1927

Hookworm Infection in Gold Mines of Witwatersrand. W. O. Fischer and A. J. Orenstein.—p. 158.
*Sequelae of Epidemic Encephalitis. M. J. Cohen.—p. 163.
*Manoiloff Reaction for Determination of Sex. W. Sachs.—p. 168.
Maternal Mortality. R. M. Woodbury.—p. 172.
Case of Hydrophobia(?). C. F. Krige.—p. 173.
*Disseminated Carcinomatosis. E. L. Dirmeik.—p. 174.
*Case of Syphilis in Child. A. Agranat.—p. 175.
Purpura Hemorrhagica. E. P. Baumann.—p. 175.

1: 185-212 (April 23) 1927

Biology. J. Luckhoff.—p. 186.
Management of Breech Presentations. G. O. Thornton.—p. 192.
Social Insurance. T. S. Higgins.—p. 196.
Pharmacology and Therapeutics: Teaching.—p. 200.
Prolonged Retention of Denture in Larynx. H. Bodkin.—p. 202.
Dimensional Differentiation of Certain Microbes. A. Pijper.—p. 203.

Postencephalitic Parkinsonism.—Twenty cases of postencephalitic parkinsonism are analyzed by Cohen. Three cases are noted in detail. All presented the parkinsonian syndrome. One instance is that of a child, aged 6 years, in whom the condition commenced three years previously, and who showed the flexor type of postencephalitic parkinsonism with excessive drooling of saliva. The second case is that of a young adult with the extensor type of the parkinsonian syndrome, and severe postencephalitic respiratory phenomena. The third is that of a diabetic adult in whom parkinsonism occurred at the outset of the disease, and in whom the diabetes was aggravated by the added condition. The most favorable treatment for the parkinsonian syndrome has been found to be tincture of belladonna in large doses, with scopolamine hydrobromide.

Manoiloff Test for Sex Determination.—Sachs regards this test as of little value at present from a medicolegal point of view owing to its inconsistency.

Disseminated Carcinomatosis.—In Dirmeik's case there were numerous nodules, varying from a pea to an almond in size, scattered about the neck, chest, abdomen and arms. Most were subcutaneous, some intramuscular, while others appeared to be attached to bone. The subcutaneous nodules were freely movable; all were stony hard, with an irregular surface. The submaxillary and cervical lymph glands on both sides were enlarged and stony hard in consistency. A primary growth was not found at the necropsy. There were carcinomatous nodules in the liver, kidneys, intestinal walls, heart muscle, glands along the lesser curvature of the stomach and mesenteric glands. There were firm pleural adhesions to the thoracic walls, diaphragm and pericardium, and the lungs were congested.

Syphilis in Child.—Agranat reports a direct infection with syphilis occurring in a 4 year old boy. He presented a typical penile chancre. He also had a gonococcal urethritis.

Arch. f. Japanische Chirurgie, Kyoto

4: 1-162 (March 20) 1927

*Ligation of Hepatic Artery: II. Y. Hori.—p. 1.
Distribution and Ending of Nonmedullated Nerves in Striated Muscles. N. Yamasaki.—p. 23.
*Double Kidney. K. Tatumi.—p. 33.
Influence of Sympathectomy on Radiosensibility. S. Uno.—p. 52.
*Closure of Duodenal Stump at Time of Stomach Resection. S. Kataoka.—p. 63.
Does Implantation of Omentum Into Kidney Induce Diuresis in Healthy Man and Animals? M. Hatakoski.—p. 99.
Action of Native and Boiled Filtrate of Culture on Immunizing Results of Common Typhoid Vaccine. I. Takamatsu.—p. 108.

Ligation of Hepatic Artery.—Hori asserts that nowhere can the hepatic artery be ligated with absolute safety for the liver. Ligation of the right or left terminal branch is the safest. Ligation proximal to the point where the gastroduodenal artery is given off is the second in safety. Ligation proximal to the superior pyloric artery is third in safety or second in danger. Ligation of the arteria hepatica propria is the most dangerous.

Double Kidney.—The left kidney in Tatumi's case was double, that is, two parts fused at the ends, an upper and a lower, the whole being twice the normal size. The upper portion was apparently normal. The lower portion was tuberculous. There were two ureters which united 3 cm. above the bladder.

Closure of Duodenal Stump.—Kataoka separates the mucosa, submucosa and circular muscle layers from the two outer coats of the duodenum. These three inner coats are tied and invaginated into the duodenal lumen. Then the two outer coats are sutured, in apposition, over the base of the invaginated portion.

National Medical Journal of China, Shanghai

13: 1-150 (Feb.) 1927

Classification of Causes of Death in China. J. B. Grant, T. F. Huang and S. C. Hsu.—p. 1.
Health Survey of Pinchiang. L. C. Swee and W. Lien-Teh.—p. 24.
Health Obligation of Mission Hospitals. K. H. Li.—p. 83.
Communicable Disease Information in China. T. F. Huang.—p. 92.
Problem of Venereal Diseases in China. W. Lien-Teh.—p. 109.

Sei-I-Kwai Medical Journal, Tokyo, Japan

46: 1-40 (April) 1927

Nitrogen Metabolism of Surviving Liver of Mammals Under Influence of Sympathetic and Parasympathetic Poisons and Amino-Acids. S. Nukariya.—p. 1.
Immunologic Studies on Fowl Sarcoma: I. H. Yoshikawa.—p. 37.
Blood Chemistry of Japanese. K. Nakasone.—p. 38.
Antidotal Action of Ash of Oyster's Shell for Viper's Poison. Y. Suzuki.—p. 39.

Annales de l'Institut Pasteur, Paris

41: 201-368 (March) 1927

*B C G Vaccine in Prevention of Tuberculosis in the New Born. A. Calmette et al.—p. 201.
*B C G Vaccine in Prevention of Tuberculosis in Cattle. C. Guérin et al. —p. 233.
B C G Vaccine in Prevention of Tuberculosis in Infants. B. Weill-Hallé and R. Turpin.—p. 254.
*B C G Vaccine in Prevention of Tuberculosis in Belgium. Malvoz and J. van Beneden.—p. 271.
B C G Vaccine in Prevention of Tuberculosis in Roumania. J. Cantacuzène.—p. 274.
B C G Vaccine in Prevention of Tuberculosis in Athens. G. Blanc.—p. 277.
B C G Vaccine in Prevention of Tuberculosis in Algeria. H. Rougebief. —p. 282.
B C G Vaccine in Prevention of Tuberculosis in Indo-China. N. Bernard.—p. 284.
*Elimination of B C G Vaccine Taken by the Mouth. Remlinger and Bailly.—p. 286.
Effect of B C G Vaccine Given by the Vein. E. Coulaud.—p. 289.
Phagocytosis and Destruction of Tubercle Bacilli. S. Metalnikov and V. Secreteva.—p. 301.
B C G Vaccine in Prevention of Tuberculosis in Italy. A. Ascoli.—p. 314.
B C G Vaccine in Prevention of Tuberculosis in Ukraine. Tzekhnovitzer.—p. 322.
The Technic for B C G Cultures.—p. 358.

Inoculation of New-Born Infants with B C G Vaccine in Prevention of Tuberculosis.—The paper contains a detailed study by Calmette in collaboration with Guérin, Nègre and Boquet. The statistics include 969 infants who were born from tuberculous mothers or had been in contact with a tuberculous person. They were inoculated with B C G vaccine. In France the average mortality from tuberculosis in infants is about 26 per cent. Among the vaccinated infants, for the two years following the vaccination, the mortality from tuberculosis was 1 per cent; it was nil after two years. The resistance to tuberculous reinfection lasted more than four years. Hence, with the B C G vaccine infants are immunized for the period during which tuberculous infection is most dangerous.

B C G Vaccine in Prevention of Tuberculosis in Cattle.—On a farm on which the cattle were infected with tuberculosis, all the calves were vaccinated with B C G vaccine within the first fifteen days of life. They were revaccinated every year. The usual prophylactic measures of isolation and disinfection were suspended. An injection of 0.05 Gm. of B C G vaccine was given subcutaneously. Of eighty-eight animals thus treated, twenty were born from tuberculous mothers and fed with the maternal milk for a few months. None of the animals contracted tuberculosis.

Immunization with B C G Vaccine in Belgium.—A service has been organized in Liége which prepares B C G and distributes it to physicians. Three hundred and eighty-six infants were vaccinated. Among them, one infant of the thirty-two who lived in contact with tuberculous persons died from presumed tuberculosis at the age of 3 months.

Innocuousness of B C G Vaccine Given by the Mouth; Its Elimination.—Twenty guinea-pigs, aged less than 10 days, were given a single dose of from 0.01 to 1 Gm. of B C G vaccine by the mouth. None of them developed tuberculous lesions. Acid-resisting bacilli appeared in the feces from two to ten days after ingestion of the vaccine. They disappeared from six to seventeen days later. The tuberculin reaction was still negative in all the animals seventy-four days after ingestion of the vaccine.

Bruxelles-Médical, Brussels

7: 586-617 (March 6) 1927

Assanation in Tropical Cities. J. J. Van Loghem.—p. 586.
*Anaphylactic Origin of Dermographia. B. Dujardin and N. Decamps.—p. 589.
Suppurative Fibromas. P. Nisot.—p. 593.
*Filtrable Tubercle Bacillus in Tuberculous Organs. P. Fabry.—p. 596.

Anaphylactic Origin of Dermographia.—In Dujardin and Decamps' opinion, dermographia and urticaria have a common pathogenesis; both are of anaphylactic origin. Dermographia is due to liberation of antigen in the skin by mechanical means. As long as the liver is normal, the amount of antigen carried to the skin is insufficient to produce any visible manifestations. In case of insufficiency of the liver, there is retention of the antigen in the skin: dermographia develops. Continued accumulation of antigen in the skin with increase of amboceptors brings about chronic skin lesions with a white line on tracing, which persists. The red and the white marks elicited by tracings represent various phases of the same anaphylactic condition.

Filtrable Form of Tubercle Bacillus in Tuberculous Organs.—Fabry inoculated a guinea-pig with a filtrate prepared from a fragment of human tuberculous lung. The animal died before the end of the month. Acid-resisting bacilli analogous to the tubercle bacilli were found in the enlarged glands and in the spleen. A fluid obtained from these organs was injected into a guinea-pig. The animal died forty-four days later. Necropsy revealed the presence of generalized tuberculosis. The fact that filtrable tubercle bacilli are found in tuberculous organs and in sputum (Valtis) may change many of the theories of contagion in tuberculosis.

Bulletin de l'Académie de Médecine, Paris

97: 625-706 (May 24) 1927

*Habitual Vomiting in Infants. A. B. Marfan.—p. 639.
Education in Sex Relations. R. Martial.—p. 642.
Physicochemical Study of St. Honoré-les-Bains Mineral Waters. G. Achard and P. Blum.—p. 645.
Physicochemical Study of Bourbon-Lancy Mineral Waters. G. Achard and P. Blum.—p. 647.

Pathogenesis of Habitual Vomiting in Infants.—In Marfan's opinion, repeated or habitual vomiting in infants does not depend on the kind of food. It occurs in breast fed infants as well as in infants given cow's milk. The vomiting begins within the first two months of life. Sometimes it takes place immediately after the meal, sometimes an hour or more later. The disease persists for weeks or months. During exacerbation, constipation is present; at other times, the stools are normal, or there is slight diarrhea. Marasmus may develop and frequently ends in death. The disease is not caused by organic stenosis of the pylorus or by lesions of the stomach. In most cases congenital syphilis is a factor, and the majority of patients, the author says, are rapidly cured by antisyphilitic treatment. The theory is that the vomiting is caused by syphilitic lesions in the vomiting center, situated in the pneumogastric nucleus of the medulla oblongata.

Bulletins de la Société Médicale des Hôpitaux, Paris

51: 675-738 (May 26) 1927

Mechanical Prophylaxis in Tuberculosis. C. Zoeller.—p. 675.
Cases of Nonhereditary and Nonfamilial Craniofacial Dysostosis. Roubinovitch et al.—p. 676.
Malignant Granulomatosis of the Sternum. Lortat-Jacob et al.—p. 681.
Painful Lipomatosis and Dercum's Disease. M. Labbé and R. Boulin.—p. 687.
Angina Pectoris and Gout. E. Doumer.—p. 695.
Acidosis and Uncontrollable Vomiting in Pregnancy. M. Labbé.—p. 702.
*Splenomegalia of Mycotic Origin. P. Emile-Weil et al.—p. 713.
Does Vaccine Treatment of Bronchopneumonia Avert Empyema? d'Oelsnitz and G. Bonnet.—p. 718.
Cases of Bronchiectasis Simulating Mediastinal Pleurisy. E. Rist et al. —p. 724.
Study of Spirochetal Pulmonary Gangrene of Chronic Course. F. Bezançon et al.—p. 728.

Seven Cases of Splenomegalia Caused by Aspergillus.—Emile-Weil, Grégoire and Flandrin noted the presence of a fungus in seven of sixteen cases of primary splenomegalia. On cultivation, the fungus appeared to be of the Aspergillus species. Five of the patients were between 15 and 24 years of age, two were 50 years old. In two instances, the patients were women. The authors give a detailed study of the macroscopic and histologic lesions; they were similar to those described by Nanta. The clinical aspect of the disease varies. Banti's syndrome was present in three cases. In two, considerable enlargement of the spleen was accompanied by hemolytic jaundice; in two, lesions of the spleen existed alone. Six patients presented hematemesis and melena, often of the recurring type. The changes in the blood were characteristic of chronic anemia. The course of splenic mycosis is very slow; the disease ends in death in from six to ten years. Involvement of the liver with consequent ascites hastens the fatal issue. Treatment consists in removal of the spleen before cirrhosis of the liver sets in. One of the patients operated on two years ago is now entirely well; she has gained 26 Kg. in weight. The other operations were recent.

Comptes Rendus de la Société de Biologie, Paris

96: 501 580 (March 4) 1927 Partial Index

*Vaccination Against Dysentery with Living Bacilli. G. Blanc and J. Caminopetros —p 509
*Property Induced in Bacteria of Lyzing Red Corpuscles. I. Schiller —p 511
Reciprocal Action of Syphilitic Serums R Douris —p 515.
*Contraction of the Spleen and Polycythemia from Epinephrine and Furze. L Binet et al —p 521
*The p_H in Malignant Tumors and in Embryos. E Harde and P. Henri. —p 535
Histologic and Chemical Researches on "Ciaccio's" Cells S. Baginski. —p 537.
Lytic Action of Ultraviolet Rays on Isotonic Solutions of Platelets J. Cluzet and T Kofman —p 539
*Epinephrine of the Suprarenals in Vitamin C Deficiency. G Mouriquand and A Leulier —p 548
*Carbon Dioxide Gas Baths L Kmietowicz —p 565
Role of Carbohydrates in Fever of Peripheral Origin J Dadlez and W Koskowski —p 576

Vaccination with Living Shiga Bacilli Against Dysentery in Man—Blanc and Caminopetros assert that living Shiga bacilli are not toxic for the human organism when they are cultivated in tubes free from condensation fluid. The technic is given With their method, from four to six thousand millions of living bacilli were injected into the muscle or beneath the skin without provoking any appreciable local or general reaction The results of the vaccination were satisfactory in children as well as in adults and the aged

"Induced Antagonism" in Bacteria Against Red Corpuscles.—In his former experiments, Schiller succeeded in inducing in bacteria a lytic property against bacteria or yeasts. In his recent researches, the "antagonism" was induced in bacteria against red blood corpuscles An emulsion of washed red corpuscles in a sodium chloride solution was used for cultures of anhemolytic streptococci isolated from the throat in healthy persons Since this medium is deprived of a soluble nitrogen, the streptococci are forced to use the red corpuscles for their nourishment The hemolysis occurs by means of a lytic substance secreted by the anhemolytic streptococcus. This is preceded by a marked agglutination

Contraction of the Spleen and Polycythemia from Epinephrine and Furze.—Binet, Cardot and Fournier's experiments were conducted on the dog's spleen Fragments of the organ were treated with epinephrine or with furze extract. These substances, which usually provoke an early and high grade polycythemia in vivo, caused considerable contraction of the spleen in vitro. Yohimbine suppresses both the polycythemia which they cause in vivo and contraction of the spleen which they excite in vitro

The p_H in Malignant Tumors and in Embryos of Mice.—Rats with transplanted sarcoma, mice with spontaneous carcinoma and gravid mice were injected in the peritoneum with phenol red or with cresol red On subsequent examination, the reaction in the tumors as well as in the embryonal tissues proved to be acid (the p_H was between 5 8 and 6 6). Harde and Henri consider these facts as proof that an acid medium may favor the growth of cells in vivo

Epinephrine of the Suprarenals in Vitamin C Deficiency.—Mouriquand and Leulier conclude from their study on guinea-pigs that vitamin C deficiency does not bring about reduction of epinephrine in the suprarenals Lesions from vitamin C deficiency appear to be limited to the cortical portion of the suprarenals, since cholesterol is found to be greatly reduced there

Dry Carbon Dioxide Baths.—Carbon dioxide gas was introduced into empty bath tubs especially constructed for the purpose. The person to be examined entered the bath fully dressed The tub was covered with a rubber sheet, placed tightly around the patient's neck The bath was given at room temperature for from ten to twenty minutes Capillaries that were previously invisible increased in size by from 15 to 20 per cent Respiration became slower The maximal blood pressure decreased by about 30 mm , the minimal pressure remained apparently unchanged. The respiratory volume had increased from 80 liters to 103 liters at the end of ten minutes. Kmietowicz thinks that carbon dioxide gas baths may replace mineral water baths The bath cubicles should be suitably ventilated.

Gynécologie et Obstétrique, Paris

15: 161 240 (March) 1927

*"Enervation" of the Ovary. J. Lhermitte and R Dupont —p. 161.
Implantation of the Fallopian Tube in the Uterus. G. Cotte and P. Bertrand —p 182
Pregnancy After Radiotherapy for Uterine Hemorrhages. C. A. Castano. —p 196
Complications of Uterine Deformities T Mihailesco —p. 205.

"Enervation" of the Ovary in Treatment of Ovarian Pain.—Lhermitte and Dupont report fifteen of their twenty cases in which painful sclerocystic ovary or pelvic neuralgia of ovarian origin was treated by severing the ovarian nerves. The operation was performed on one side in three patients, on both sides in twelve patients and was followed by disappearance of the pain. The results were better with the bilateral method. In most of the cases the neurectomy was associated with ligamentopexis or appendectomy. Recurrence did not take place. After the operation, the menses appeared normally; one of the women became pregnant. The operation is indicated in recent cases and in young women only. The technic, which consists in dividing the nerves in the ovarian hilum, is described. There are five illustrations.

Journal de Médecine de Bordeaux et du Sud-Ouest

104: 135 168 (Feb 25) 1927. Partial Index

*Spinal Anesthesia in Treatment of Spastic Intestinal Obstruction. A. Chenut —p 140
Massage of the Prostate. H. Blanc —p. 143.

Spinal Anesthesia in Treatment of Postoperative Spastic Intestinal Obstruction.—A woman, aged 45, developed phenomena of intestinal obstruction following hysterectomy. On account of the coinciding bronchopneumonia, enterostomy appeared an extremely grave undertaking. Therefore, spinal anesthesia was tried A preparation of cocaine was injected into the spinal canal between the second and third lumbar vertebrae. This resulted in the immediate discharge of gas and feces. The treatment was followed by purgation for a few days, and the patient recovered completely. The author warns that spinal anesthesia should be used only in cases in which tonic contraction of the intestine is responsible for the obstruction. In other cases, operation should be performed without delay.

Paris Médical

63: 472 500 (May 21) 1927

Diseases of the Liver, Pancreas and Spleen in 1927. E. Chabrol —p 473.
Indications for and Results of Cholecystogastrostomy B Cunéo —p 491.
Sulphur in the Liver and Sulphoconjugation. H. Flurin and A Mathieu de Fossey —p 494

63: 501 512 (May 28) 1927

Desensitization Therapy in Vomiting of Pregnancy. Lévy Solal et al —p 501
*Bouillon Vaccine in Treatment of Gonococcal Urethritis. Barbilian et al. —p 506
*Induced Anastomosis of Venous Systems in Treatment of Ascites. Krestowsky —p 511.

Local Treatment with Antivirus, in Cases of Gonococcal Urethritis.—Barbilian, Voscobonic and Franke used a filtrate of gonococcus cultures in patients with gonococcal urethritis. The treatment was limited to recent cases in which the posterior urethra was not affected. After an irrigation from 5 to 10 cc of the bouillon vaccine was slowly introduced into the anterior urethra The injection was usually repeated twice or three times a day. From five to eight days later, when the urethral discharge was greatly reduced, the filtrate was injected into the posterior urethra. When cautiously done, the procedure proved to be harmless. Microscopic examinations of the urethral discharge were made every three days, and the treatment was discontinued when the gonococcus had disappeared completely from the sperm culture. In fourteen patients thus treated, clinical and biologic cure took place within from twelve to thirty days. By-effects were never observed

Induced Anastomosis of the Portal Vein and Vena Cava in Ascites.—Krestowsky's patient, aged 24, presented cirrhosis of the liver with considerable ascites. At first 48 liters, then from 15 to 25 liters of the fluid were withdrawn every month. An operation was performed, at which the superior mesenteric vein was anastomosed with the inferior vena cava. This resulted in reduction of the ascites to such an extent that in two months only 5 liters of the fluid were removed. It is expected that a collateral circulation will develop, by which the blood of the left half of the abdomen will be carried directly into the inferior vena cava. Accumulation of fluid in the abdominal cavity might then cease completely. The details of the operation are given.

Presse Médicale, Paris

35: 641-656 (May 21) 1927

Comparative Study of Serologic Methods. E. Techoueyres and Pillement.—p. 641.
Foreign Bodies in Respiratory and Digestive Tracts of Infants. J. Guisez.—p. 642.
*Pathogenesis of Epileptic Fits. A. Popea and G. Eustatziou.—p. 643.
Importance of Histologic Pathology in Diagnosis. M. Letulle.—p. 645.

Rôle of Vasoconstriction in the Pathogenesis of Epileptic Seizures.—Popea and Eustatziou report sixteen cases, in which epileptic patients were treated with inhalations of amyl nitrite. From 3 to 5 drops were poured on a compress and renewed at each inhalation. The inhalations suppressed the convulsions, or averted the seizures when given as soon as the first signs appeared. This action of a vasodilator substance, such as amyl nitrite, confirms the theory that vasoconstriction, i. e., the sympathetic system, plays a determining rôle in the pathogenesis of epilepsy.

35: 657-672 (May 25) 1927

*Study of Chronic Intestinal Stasis. M. Chiray and J. Lebon.—p. 657.
Technic for Fractures of the Inferior Maxilla. C. Lenormant and M. Darcissac.—p. 660.

35: 673-688 (May 28) 1927

Vulpian's Work. G. Catola.—p. 674.
Leeches in Treatment of Thrombotic Phlebitis. J. Mouzon.—p. 677.

A Study of Chronic Intestinal Stasis.—Chiray and Lebon's paper is devoted to a detailed study of this condition. The pathogenesis and clinical forms are discussed. The authors distinguish seven forms of the disease: the common, hepatobiliary, renal, gastric, respiratory, febrile and anemic.

Riforma Medica, Naples

43: 385-408 (April 25) 1927

*Pernicious Anemia in Chronic Amebiasis. G. Izar.—p. 385.
*Homoplastic Grafts of Endocrine Organs. G. Castiglioni.—p. 387.
Gastro-Intestinal Manifestations of Cholelithiasis. M. Mairano.—p. 388.
*Friction Sign in Cirrhosis of the Liver. P. Arsenio.—p. 396.
Vaccinotherapy of Infectious Diseases. T. Lucherini.—p. 404.

43: 409-432 (May 2) 1927

Scoliosis and Aortic Aneurysm. O. Nuzzi.—p. 409.
Orthocardiogram After Venous Stasis. E. Periti.—p. 413.
Pseudostrangulation of Hernia. V. Silvestrini.—p. 418.
Vaccine Treatment of Pulmonary Abscess. S. Livierato.—p. 420.
Mutilating Form of Leprosy. G. Crocco and S. Lottico.—p. 428.

Pernicious Anemia in Chronic Amebiasis.—Izar's patient developed all the signs of pernicious anemia within a few months after being infected with amebic dysentery. She improved under treatment of the basic disease.

Homoplastic Grafts of Endocrine Organs.—Castiglioni had better success with implants of ovaries and testes, when he injected an extract of the respective gland every other day after the implantation.

Friction Sign in Cirrhosis of the Liver.—Arsenio observed friction sounds between the eighth and eleventh ribs in the right middle axillary line in a patient with cirrhosis of the liver.

Rivista di Clinica Pediatrica, Florence

25: 289-360 (May 25) 1927

*The Blood in Tuberculosis. C. Cisi.—p. 289.
Congenital Atony and Fetal Muscular Dystrophies. G. Fiore.—p. 319.
Treatment of Congenital Umbilical Hernia. U. Trinci.—p. 338.
"Organovaccinotherapy" in Acute Infections. G. Taccone.—p. 348.

The Blood in Tuberculosis.—Cisi found an increase in neutrophils in the large majority of tuberculous children. The "shifting to the left" of Arneth's formula was more pronounced than in adults. Neutrophilia indicates a somewhat graver prognosis, eosinophilia a distinctly better outlook.

Archivos Brasileiros de Medicina, Rio de Janeiro

17: 143-250 (March) 1927

Pernicious Action of Plasmodia. M. Couto.—p. 143.
*Malaria and Neuropsychiatry. J. Moreira.—p. 146.
*Eye Symptoms in Malaria. Abreu Fialho.—p. 162.
Mental Disturbances in Malaria. H. Roxo.—p. 168.
Diagnosis of Malaria. I. Malagueta.—p. 177.
Treatment of Malaria. H. Duque.—p. 187.
Prognosis in Malaria. E. Coutinho.—p. 200.
Malarial Therapy of Neurosyphilis. W. Pires.—p. 213.
*Pathogenesis of the Malarial Paroxysm. H. Póvoa and W. Piza.—p. 224.

Nervous Manifestations in Malaria.—While nervous and mental manifestations are common in malaria, none, states Moreira, are characteristic of the disease. In order to diagnose their malarial origin the following data are needed: a clinical picture typical of a co-existent or previous malarial infection, exclusion of other causative factors, finding of the parasite in the blood and improvement under antimalarial treatment. Postmortem examination in cases of general paralysis, shortly after inoculation with malaria, showed histologic changes in the brain which suggest regression of the paralytic process. Malaria would thus seem to make the cortex more accessible to antisyphilitic treatment.

Eye Manifestations in Malaria.—In malarial patients treated with quinine, warns Abreu, disturbances caused by the drug must be clearly separated from those due to the disease. The eye is involved in hardly 20 per cent of patients with malaria. Abreu thinks he was the first to point out teichopsia as a symptom of malaria.

Pathogenesis of the Malarial Paroxysm.—The blood reaction to malaria was found to assume the same form in two nonparalytic patients as in five patients with general paralysis. When the paroxysm began, the maximum arterial pressure, the leukocyte count and the refractometric index underwent a sudden decrease. The lymphocytosis and mononucleosis continued until the height of the paroxysm was passed. The blood changes may be initiated by a sort of hemoclasia. In this case, the malarial paroxysm would become a shock started by the discharge of merozoites at the moment of reproduction.

Archivos Españoles de Pediatría, Madrid

11: 193-256 (April) 1927

*Abuses of Serum Therapy. A. Martinez Vargas.—p. 193.
Prevention of Congenital Syphilis. L. Herrera and R. Garelly.—p. 201.
Pulmonary Hydatid Cyst in a Child. F. González Beltrán.—p. 218.

Fatal Abscesses Caused by Irrational Serum Therapy.—Martínez Vargas describes several cases in which the empirical use of serums was followed by disastrous results. At the necropsies at the Barcelona Medical School, multiple internal abscesses have been found on several occasions after unjustified injections of serums. A child had mild lobar pneumonia. The physician used serum. Two abscesses developed, followed by a period of illness and ending fatally a few months later. At necropsy an abscess was found in the brain and another in the region of the right kidney. Martínez warns that "the use of serums merely in accordance with therapeutic analogy must be discarded, since the remedy may prove worse than the disease."

Lisboa Médica, Lisbon

4: 1-52 (Jan.) 1927

Sterility of Tubal Origin. E. Guedes Teixeira.—p. 1.
Basal Metabolism in Exophthalmic Goiter. M. Rosa.—p. 8.
*Ultraviolet Rays in Treatment of Diphtheria Carriers. F. Formigal Luzes.—p. 15.
Dementia Praecox and Schizophrenia. L. Pacheco.—p. 20.

Ultraviolet Rays in Diphtheria Carriers.—In the case reported by Formigal, several forms of treatment had failed to eradicate the diphtheria bacilli from the throat of a child, aged 7. They disappeared completely after nine ultraviolet irradiations.

Revista Mexicana de Biología, Mexico City

7: 21-53 (March-April) 1927

*Bibliography of Pinto. A. E. Reyes.—p. 21.

Bibliography of Pinto.—In connection with Ochoterena's investigations of pinto in Mexico, Reyes has compiled a list of references to the disease. The oldest are those of Alzate

Ramirez (1787), Gomez (1789), Fuero (1797), Berecoechea (1811) and Corona (1811) Flores in his History of Mexican Medicine states that pinto was known to the Aztecs and quotes from a letter of Cortes to Charles V and from Hernandez' Historia Plantarum Hernandez' description is, however, indefinite

Semana Médica, Buenos Aires

34 957 1016 (April 21) 1927 Partial Index

Diagnosis from Blood Stains in Situ N Rojas and C S Daniel —p 957
*Spontaneous Pneumothorax in an Infant A Segers —p 969
*Autohemotherapy of Chancroid I J Clusellas —p 972

Spontaneous Pneumothorax in an Infant—Segers adds one case to the five previously reported in the literature His patient was 9 months old The family history, a number of signs and the success of mercurial medication pointed to syphilis as a causative factor

Autohemotherapy in Chancroid Buboes—In 70 per cent of the twenty three cases of chancroid described by Clusellas, autohemotherapy modified favorably the course of the buboes Even when instituted in the suppurative stage, it prevents external rupture of the abscess It always shortens the course of the disease and has no contraindications In five further cases treated in the same manner, Ducrey's *bacillus* was not found in the pus of the buboes The initial dose was 5 cc, later doses were increased to 10 cc The injections were given in the buttocks, every other day, and varied *in* number from two to nine

Archiv fur exp. Pathologie und Pharmak., Leipzig

121 1 130 (March) 1927

*Temperature and Drugs Inhibiting the Sympathetic R Rigler and E Silberstern —p 1
Acid Alkali Balance After Exertion in Diseases of the Circulatory System B Groag and H Schwarz —p 23
*Blood Ammonia D Adlersberg and M Taubenhaus —p 35
Regulation of the Heat and Blood Sugar L Geiger —p 67
Reaction of the Urine and Synthesis of Hippuric Acid C E Koch —p 83
Topographic Measurements of Blood Viscosity H von Gundell —p 89
Action of Acetylene on the Circulation H Bollert et al —p 100
*Enhancement of the Action of Drugs by Theobromine Derivatives, A Frohlich and E Zak —p 108

Temperature After Administration of Drugs Inhibiting the Sympathetic—Rigler and Silberstern were able to lower the temperature of rabbits by injections of ergotoxin and ergotamine The experiments succeeded after section of the thoracic but not after section of the cervical spinal cord Intracranial application required smaller doses The drugs seem to paralyze the sympathetic part of the heat center Part of their action is due to restriction of the chemical heat production

Blood Ammonia—In healthy subjects Adlersberg and Taubenhaus found less than 0 05 mg of ammonia per hundred cubic centimeters of blood Intravenous injection of larger amounts of acid sodium phosphate increased the ammonia concentration of the blood Hyperpnea produced a similar result, which does not seem to be due to the alkalosis Venous stasis did not change the ammonia content of the blood Hyperammonemia occurs in grave prolonged hypoxemia The blood ammonia was normal in all other pathologic clinical conditions with the exception of diabetic coma Ligation of the hilums of both kidneys was followed by an increase in blood ammonia This increase was more rapid than the increase in the substance from which it forms ("mother substance of ammonia")

Enhancement of the Action of Drugs by Theobromine Derivatives—Frohlich and Zak injected frogs with an isomer of theobromine In these animals they induced spasms with sulphonated acid dyes, such as acid fuchsin and phenolsulphonphthalein, in doses that would not ordinarily have proved toxic The central nervous system of these frogs contained a considerable amount of the dye None was found in the brain or spinal cord of controls that were injected with the dye alone The action of morphine and magnesium was similarly enhanced in frogs, rabbits and cats, and a fluorescent dye and potassium ferrocyanide spread faster in animals treated by the theobromine isomer than in controls The authors regard this as evidence of more rapid metabolism of fluids and increased permeability of tissues in such animals

121: 131 258 (March) 1927

*Role of the Liver in Intermediary Metabolism and Excretion D Adlersberg and E Roth —p 131
Epinephrine Content of the Blood H Schlossmann —p 160
**Cinchophen Bile* G Taubmann —p 204
Catalytic Action of Irradiated Cod Liver Oil B Schimkus —p 230
The Liver in Anaphylaxis D Louros —p 238
"Cholesterol and Action of Insulin" H Lange and R Schoen —p 245
"Pyrogenic Substances" F B Seibert —p 247
Action of Iodides on the Protein and Sodium Chloride Content of the Blood A Slauck —p 250

Rôle of the Liver in Intermediary Metabolism and Excretion—Adlersberg and Roth confirm the observation that the normal bile of rabbits is practically sugar-free This is true even with marked experimental hyperglycemia Phlorhizin causes a glycocholia (appearance of dextrose in the bile) constantly, if it is administered to a hyperglycemic animal Injection of bile salt does not lower the concentration of sugar in bile Ergotamine has no influence on phlorhizin glycocholia, although it inhibits the simultaneous glycosuria

Cinchophen Bile—Taubmann injected dogs with derivatives of cinchophen Cinchophen was partly eliminated by the bile Such bile does not form an emulsion of fat as easily as does normal bile It inhibits digestion of fat as well as of carbohydrates

Archiv fur die gesamte Physiologie, Berlin

216: 281 436 (April 8) 1927

Action Current of Nerves H Rosenberg —p 300
The Spleen, Blood Volume and Blood Composition E Abderhalden and G Roske —p 308
*Insulin Dextrose and Respiration of Surviving Spinal Cord H J Wolf —p 322
Glycogen Synthesis in Stimulated Denervated Muscle A Hoffmann and E Wertheimer —p 337
*Internal Secretion and Pregnancy F Schutz —p 341.
'Lock' of Striated Muscle G Lehmann —p 353
High Altitudes and the Animal Organism E Abderhalden et al —p 367
*Psychic Behavior of Rats on Different Diets E Abderhalden and E. Wertheimer —p 396
Inorganic Salts and Contractibility of Muscles R Hober —p 402
*Secretion of Glomeruli R Hober and E Mackuth —p 420
Reflexes in Decerebrate Animals E Spiegel and R Worms —p 432

Insulin, Dextrose and Respiration of Surviving Spinal Cord—Wolf found that simultaneous addition of dextrose and insulin increases the oxygen consumption of the surviving spinal cord of the frog, unless the concentration of insulin is too high

Internal Secretion and Pregnancy.—Atony of the uterus during labor was observed by Schutz in thyroprival rabbits In the young there was premature ossification of the epiphyseal centers Abortion and death occurred *in* hyperthyroidized rats

Psychic Behavior of Rats on Different Diets—Abderhalden and Wertheimer found that rats fed chiefly on proteins developed increased spontaneous motility, were easily frightened and were inclined to attack They were much more resistant to alcohol than rats fed chiefly on carbohydrates

Secretion of Glomeruli—The experiments of Hober and Mackuth were made on perfused frog kidneys The secretion could be inhibited in a reversible manner and without change of the circulation by nitrogen, potassium cyanide or narcotics The inhibition occurs even when the tubules are poisoned by mercuric chloride injected through the renal portal vein of the frog This speaks for the existence of secretion—not of filtration—in the glomeruli Perfusion of glomeruli with mercuric chloride inhibits not only the secretion of urine, but also the circulation of the perfusing fluid

Beitrage zur klinischen Chirurgie, Berlin

138: 583 768, 1927

Rigid Hollow Splints H Braun —p 583
*Bacteriology of Resection of Perforated Peptic Ulcer H Brütt —p 601.
*Bone Necrosis from Diminished Circulation W Muller —p 614
*Experimental Bone Necrosis from Anemia and Pressure H Burckhardt. —p 625
Fat Content of Castrated Animals on Vitamin Free Diet F Rost —p 647
Tails in Human Beings P Rostock —p 657
Treatment of Generalized Tetanus by Local Anesthetics F Mandl —p 663
Regeneration in Free Transplantation of the Pancreas G Jorns —p 682
Etiology of the So Called Callous Ulcer of the Male Urethra F Reischauer —p 695

Peptic Ulcer of Meckel's Diverticulum. K. Kleinschmidt.—p. 715.
The Myotoxin Theory and the Origin of Purulent Myositis. Y. Osawa and O. Tanaka.—p. 721.
Perirenal Hydronephrosis. E. Müller.—p. 733.
The Blood Pressure in Operations in the Upper Abdomen, Particularly Under Splanchnic Anesthesia. J. Kummer.—p. 742.
Surgical Treatment of Congenital Anal Atresia. A. Kutter.—p. 756.
Case of Primary Sarcoma of the Stomach. W. Dahs.—p. 764.

Bacteriologic Aspect of Resection of Perforated Gastric or Duodenal Ulcer.—For the first twelve hours after perforation, Brütt found the peritoneal exudate sterile or infected chiefly with green streptococci. Resection within this time is comparatively safe. When performed within the first six hours the mortality was 3.8 per cent in his patients under 45 years of age and in good general condition; when done between six and twelve hours after the perforation, it was 14 per cent. After twelve hours, colon bacilli and hemolytic streptococci are present and the mortality rose; in such cases, a short, simple operation would probably be safer. The permanent results from resection were better, in his experience, than from gastro-enterostomy.

Necrosis of the Intermediate Lamellae from Diminished Circulation.—Müller studied the bone in four cases of thigh amputation for arteriosclerosis, in which the gangrene was limited to the toes but distinct signs of impaired circulation were present in the rest of the extremity. Even in segments in which general tissue necrosis was absent, he found necrosis of the bone cells. This necrosis was limited to the intermediate lamellae.

Bone Necrosis from Anemia and Pressure.—Burckhardt wound an elastic band as tightly as possible around the right foreleg of young rabbits and let it remain for various lengths of time up to more than twelve hours. The animals were killed from sixteen to forty-seven days after the procedure and the bone was examined. The special sensitiveness of the bone to injury was demonstrated, in that extensive bone necrosis was found long after all traces of injury in the soft parts had disappeared. The necrosis involved entire areas of bone, not merely individual trabeculae or layers. Where the bone was injured, but not killed, regeneration had apparently set in immediately or very soon after removal of the constriction. Regeneration was seen only, however, in places where the marrow had shared in the injury. The articular cartilage was entirely normal in all cases, even when the bone was totally necrotic and the soft parts had suffered irreparable injury. Epiphyseal cartilage proved more resistant than bone, but less so than articular cartilage; the lesions were always situated near the zone of ossification.

Biochemische Zeitschrift, Berlin

183: 1-244 (March 28) 1927

Urease. H. von Euler and E. Brunius.—p. 1.
*Precipitation of Serum Proteins by Acids and Metal Salts. L. Lorber.—p. 16.
Blood Sugar and Gas Metabolism After Various Carbohydrates. K. Schirlitz.—p. 23.
*Determination of Serum Calcium. L. Pincussen and P. Schimmelpfeng.—p. 42.
Biologic Action of Wiesbaden Water. K. Harpuder.—p. 45.
Action of Ferro-Ions and Mango-Ions on Yeast. K. Harpuder.—p. 58.
Radiometric Microanalysis. R. Ehrenberg.—p. 63.
Radiometric Microanalysis of Dispersity. R. Ehrenberg.—p. 68.
Mastic Sol and Proteins. K. Hotta.—p. 72.
Mineral Metabolism in Experimental Tetanus. J. M. Krinizki.—p. 81.
Serum Tryptase. O. Steppuhn and Z. Utkin-Ljubowzow.—p. 90.
Blood Proteases. L. Utkin-Ljubowzow.—p. 103.
Vitamin Content of Wheat and Rye Germs. A. Scheunert.—p. 113.
Autolysis. P. Rona and E. Mislowitzer.—p. 122.
*Condition of Chlorophyll. K. Noack.—p. 135.
Action of Iron in Assimilation of Carbon Dioxide by Green Plants. K. Noack.—p. 153.
*Lactic Acid Formation from Fermentable Hexoses in Muscle Extract. O. Meyerhof.—p. 176.
*Enzyme Forming Lactic Acid in Muscle. K. Meyer.—p. 216.
*Limits of Usefulness of Nessler's Reagent. B. Sjollema and L. Seekles.—p. 240.

Precipitation of Serum Proteins by Acids and Metal Salts.—Lorber found that addition of 1 cc. of a one hundred and sixtieth normal acid to 0.2 cc. of serum brings its proteins into the iso-electric state (maximum precipitation) regardless of the hydrogen ion concentration of the acid. Acetic acid and hydrochloric acid produced only a difference in the shape of the curve of precipitation; the maximum was the same. The salts of heavy metals act similarly when equivalent amounts are employed. This is apparently due to precipitation of the metal by the titratable alkali of the serum, which is thus bound.

Determination of Serum Calcium.—Pincussen and Schimmelpfeng found that the Kramer and Tisdall method for determination of serum calcium gives incorrectly low results, unless the action of ammonium oxalate is prolonged over twenty-four hours.

Condition of Chlorophyl.—Noack concludes from his investigations that the condition of chlorophyl in the living plant should be regarded as adsorption of the pigment in a monomolecular layer on the protein of the chloroplast.

Lactic Acid Formations from Fermentable Hexoses in Muscle Extract.—Meyerhof investigated the action of the soluble lactic acid forming enzyme of muscles. It splits polysaccharids (glycogen and starch) much better than fermentable hexoses. With addition of an activator obtained by precipitation of autolyzed yeast with alcohol, the hexoses are rapidly changed, one half into lactic acid, one half into an ester of phosphoric acid. On the contrary, the fermentation of glycogen or starch yields at first much more hexosediphosphoric acid than lactic acid.

Enzyme Forming Lactic Acid in Muscle.—Meyer attempted to purify the components of the enzymatic system which produces lactic acid. A muscle extract freed by dialysis from the co-enzyme requires for action the presence of a carbohydrate, of the co-enzyme and of inorganic phosphate.

Limits of Usefulness of Nessler's Reagent.—Sjollema and Seekles draw attention to the fact that the usual incineration methods do not always change the nitrogen completely into ammonia. Other nitrogen bases, such as methylamine and diamethylamine, do not stain Nessler's reagent. The presence of caffeine, theobromine or creatine causes large errors, if Nesslerization is used.

Deutsche medizinische Wochenschrift, Berlin

53: 865-906 (May 20) 1927

Vertigo. E. Meyer.—p. 865.
*Action of the Ovarian Hormone on the Mammary Gland. E. Laqueur et al.—p. 867.
Psychotherapy. Gaupp.—p. 868. C'cn.
Epidemic Encephalitis and Herpes. S. Schoenborn.—p. 870.
Climatic Treatment of Tuberculosis. M. Levy —p. 872.
*Intravenous Injection of Pilocarpine in Postoperative Retention of Urine. H. M. Hinrichsen.—p. 874.
The Operating and Delivery Rooms. W. Benthin.—p. 875. C'cn.
Complement Fixation with Simple Fats. J. E. Wolf.—p. 876.
Epilepsy. E. Siemerling.—p. 877.
Percutaneous Administration of Virulent Tubercle Bacilli. H. Koopmann.—p. 880.
*The Stomach and Intestines Before and After Syncope. J. Tugendreich and S. Schereschewsky.—p. 881.
Roentgen-Ray Study of Hypersecretion. H. Dressen.—p. 881.
Familial Grave Juvenile Diabetes. M. Landsberg.—p. 882.
*Monocytic Tonsillitis or Malignant Diphtheria? E. Koenigsberger.—p. 883.
*Gynecomasty After Prostatectomy. R. Oppenheimer.—p. 883.
Treatment of Flat Foot. Braatz.—p. 884.
Ophthalmology in 1926. P. Junius.—p. 885.
Indemnity Neuroses. M. Levy-Suhl.—p. 887.
Training of Laboratory Technicians. E. Hoffstaedt.—p. 888.
Medical Thinking. Goldscheider.—p. 889. C'td.

Action of the Ovarian Hormone on the Mammary Gland.—Laqueur, de Jongh and Tausk injected the ovarian hormone into rats. It stimulated the development of the mammary gland in both sexes.

Intravenous Injection of Pilocarpine in Postoperative Retention of Urine.—In postoperative retention of urine, Hinrichsen waits till the bladder is about three fingerbreadths above the symphysis. He then injects intravenously 0.01 Gm. of pilocarpine hydrochloride. He reports success in all his thirty-eight cases. A second injection was rarely necessary. The injection should be made slowly (one-half to one minute).

The Stomach and Intestine Before and After Syncope.—Tugendreich and Schereschewsky observed acute atony of the stomach, setting in just before the patient fainted. Similar transient atony of the colon was noted in another patient, immediately after recovery from collapse.

Monocytic Tonsillitis or Malignant Diphtheria?—Koenigsberger believes that the lethal cases of monocytic tonsillitis described by Haken were, in reality, malignant diphtheria

Gynecomasty After Prostatectomy—Oppenheimer reports two cases of gynecomasty which developed after prostatectomy

Klinische Wochenschrift, Berlin

6 · 881 928 (May 7) 1927

Degeneration Psychoses G Ewald —p 881
*Synthalin in Children R Priesel and R Wagner —p 884
Epinephrine Reaction E Kylin —p 889
*Uncultivable Virus of Typhoid E Gildemeister and K Herzberg —p 890
Changes of the Shape of the Stomach I Zollschan —p 892
Blood Groups in Upper Silesia Groetschel —p 895
Tonsillectomy in Peritonsillar Abscess H Leicher —p 896
*Perna Disease (Chlorine Acne) Teleky —p 897 C cn
Roentgen Ray Treatment of Peptic Ulcers T Barsony and L von Friedrich —p 901
Source of Error in Wassermann Reaction E Bernhardt —p 902
Proteins as Cause of Toxic Symptoms R Freund —p 903
Spots on the Skin and Teeth Leven —p 904
Congenital Syphilis and Nervous and Mental Diseases F Jahnel —p 906
Biology of Mammalian Epididymis T von Lanz —p 909
*Insulin in Diabetes Insipidus L Villa —p 926

Synthalin in Children—Priesel and Wagner tried synthalin in children Small doses (10 mg twice daily) were without any effect Larger doses always produced toxic symptoms

Uncultivable Virus of Typhoid—Gildemeister and Herzberg repeated on a new material Friedberger and Meissner's experiments on the production of a typhoid ("cryptantigenic") virus which would be transmissible in animals but otherwise not cultivable They failed to confirm the results of these investigators

Perna Disease (Chlorine Acne)—Teleky concludes that the grave acne observed in workers handling a chlorinated naphthalin ('perna") is due to the chlorine

Insulin in Diabetes Insipidus—It is believed by Villa that the hyperchloremic is the only form of diabetes insipidus in which insulin reduces diuresis

Medizinische Klinik, Berlin

23 707 746 (May 13) 1927

Social Welfare Work A Gottstein —p 707
Toxicoses of Pregnancy R Benda —p 710
Occult Bleeding E Laudr —p 713
Renal Calculus in Double Pelvis M Zondek —p 717
Prerequisites for Successful Psychanalysis B Hembrecht —p 718
Synthalin and Insulin Treatment of Tuberculous Diabetic Patients A Abraham —p 720
'Pathogenesis of Peptic Ulcers ' L Jarno —p 724
Reply F Reiche —p 724
*Insulin and Dextrose as Antidote of Cyanogen S Puder —p 74
Substitutes for Camphor A Beutel —p 726
Injury of the Breast and Tumor W Brandis —p 279
Survey of Obstetrics W Liepmann and G Muggenburg —p 730
Asthma and Tuberculosis in Relation to Climatic Allergens Vollbracht. —p 745

Insulin and Dextrose as Antidotes of Cyanogen.—Puder found with Szolnoki and Erdos that 4 Gm of dextrose per kilogram of body weight protects a rabbit against 3 mg of cyanogen per kilogram of body weight Only tachypnea and lowered temperature were observed, while the control was dead in five minutes They also found that 20 units of insulin injected ten minutes before the administration of 3 mg of cyanogen per kilogram of body weight protects the animal Its temperature, however, was lowered considerably

23 · 747 782 (May 20) 1927

Mongoloid Degeneration W Weygandt —p 747
Classification of Arthropathies E Malwa —p 750
Treatment of Inflammations of the Adnexa W Baer —p 752
Extension of Tuberculosis from the Lung to the Thoracic Wall G Simon —p 753
*Treatment of Leukorrhea Hartog —p 756
Sedimentation Test in Jaundice G Katz and P Radt —p 760
Foot and Back Support for Bed Ridden Patients G Boysen —p 764
Expert Testimony Von Schnizer –p 766
Abdominal Pains in Children H Baer —p 767

Treatment of Leukorrhea—Hartog had good results with the old silver nitrate ointment in treatment of vaginal discharge He applies the ointment on a tampon and leaves it for twenty-four hours in the vagina The treatment may be repeated four or five times at three day intervals The composition he recommends is argenti nitras, 0 3 Gm ; balsamum peruvianum, 3 Gm , adeps lanae, 3 Gm , petrolatum to 30 Gm

Munchener medizinische Wochenschrift, Munich

74 . 747 794 (May 6) 1927

Endocrine Diseases and Roentgen Ray Diagnosis K Kading —p 747.
Problems of Gastroscopy H Hohlweg —p 751
Sarcoma from Repeated Injuries B Martin —p 753
Determination of the Output of the Heart J Kaup and A Grosse —p 755
Culture of Bacilli of the Typhoid Group from the Stool by Nissle's Method W Mann —p 759
Arsphenamine Resistant Syphilis R Nothhaas —p 761
Agranulocytic Angina C Hirsch —p 762
Carbohydrates of Infant Foods B Bleyer —p 765
Synthetic Ephedrine H Petow and E Wittkower —p 767
Digitalis Treatment of Chronic Diseases of the Heart Jonas —p 769.
Injuries from Silkworm Sterilettes Peters —p 770
*Treatment of Corns by Injection Pust —p 770
Technic of Intravenous Injections V Nagel —p 770
Scrotal Support for Bed Ridden Patients F Dietel —p 771.
'A Pathologic Skin Reflex" H Malten —p 771
Campaign Against Typhoid Drenkhahn —p 771
A Physician's Thoughts on Medicine A Bier —p 772
Alexius Nikolajewitsch Bach A Dworetzky —p 776
Sexual Life in China A Hartmann —p 777

Treatment of Corns by Injection—Pust injects with alcohol the nerves supplying the terminal phalanx The pain disappears and the corn does not grow again, if wide shoes are worn

Zeitschrift f. d. ges. experimentelle Medizin, Berlin

55: 1 286 (April 28) 1927

*Bean Pod Tea in Diabetes E Kaufmann —p 1
*Serum Calcium P Meglitzky —p 13
Staining of Capillary Endothelium H Heimberger —p 17
Vagotropic Action of Atropine A J Smirnow and W F Schiroky. —p 24
Lowering of Blood Pressure in Paroxysmal Tachycardia J Bouckaert. —p 35
Epinephrine and Motility of the Stomach and Intestine W Weitz and W Vollers —p 45
*Biology of Cancer F Silberstein et al —p 56
*Insulin Treatment of Cancer F Silberstein et al —p 78
The Alkali Reserve and Digestion W Radzimowska and W Iwanow. —p 103
Blood Enzymes and Digestion W Iwanow and I Basilewitsch —p 107.
Skin Reactions After Irradiation S Kaplansky and S Soloweitschik. —p 111
Production of Toxic Substances in the Kidney O Galehr and T Ito —p 115
Manoilow's Reaction A J Kusnetzow —p 132
Sugar Metabolism in Encephalitis A von Fejer and G Hetenyi —p 143
Acid Base Equilibrium in Neurotic Respiratory Tetany F Mainzer —p 150
*Localization of Disturbances of the Awaking Condition E A Spiegel and C Inaba —p 164
Consciousness and the Problem of Sleep E A Spiegel —p 183
Nitrogen Metabolism After Extirpation of the Liver W M Wesselkina —p 198
The Kidneys and Metabolism in Fatigue A P Goldberg and M W. Lepskaja —p 214
*Caffeine as Heart Tonic A M Preobraschensky —p 226
Significance of the Sedimentation Test G Frenckell and I Wyssotsky. —p 239
Sensitiveness to Pituitary Extracts in Hyperthyroidism A Herzum and J Pogany —p 244
*Action of Pancreatic Extract and of Insulin on Blood Sugar J T. Kusnetzoff —p 249
The So Called Reversion of Hemolysis G Endres —p 266
Coagulation of Human Serum by Heat W Muller —p 271

Bean Pod Tea in Diabetes—Having obtained encouraging results from experiments on rabbits, Kaufmann advises his patients to pour four cupfuls of water over one cupful of the pods and stems of beans (phaseolus vulgaris and multiflorum) that are nearly ripe After standing over night, the mixture should be boiled for ten minutes and the fluid drunk instead of tea The author believes that it diminishes glycosuria and acidosis An extract in brandy is pleasanter to take, but the concentration of the active substance is not sufficient

Serum Calcium—Meglitzky observed increase in blood calcium in starving animals Nephrectomy raised the level for a day or two, but a rapid decrease followed Association of mercuric chloride poisoning and splenectomy lowered the blood calcium It was always low shortly before death In these experiments, the changes in the cholesterol concentration of the blood ran contrary to the changes in the calcium concentration.

Biology of Cancer.—Silberstein, Freud, Révész and Schneid publish the protocols of their experiments on the influence of insulin on tarred mice. To a considerable extent it protects them against the development of cancer. The results were improved by combination of insulin with dioxyacetone.

Insulin Treatment of Cancer.—Silberstein, Freud and Révész received the impression that under insulin treatment cancer may come to a standstill and become operable In smaller tumors local injections exerted a favorable influence.

Localization of Disturbances of the Waking Condition.—By puncturing the thalami, Spiegel and Inaba induced in dogs a condition of sleepiness, which persisted for weeks.

Caffeine as Heart Tonic.—Preobraschensky concludes that administration of caffeine is rational in disturbances of conduction. Combination with digitalis may also be advisable, since it counteracts to some extent the toxic effects of the latter drug.

Action of Pancreatic Extract and of Insulin on Blood Sugar.—Kusnetzoff ground the pancreatic glands of cats, added sodium bicarbonate and boiled the mixture. The aqueous extract, combined with an alcoholic extract from the precipitate, increased glycolysis of blood in vitro and lowered blood sugar when administered by mouth. In both these respects it differs from insulin. Besides this, it is resistant to alkali.

Zeitschrift für Hygiene und Infektionskrankh., Berlin

107: 265-486 (April 29) 1927

*Vitality of Scarlet Fever Streptococci. H. M. von Jettmar.—p. 265.
Anaerobes of the Human Intestine. W. Gusartschik.—p. 288.
The Omentum After Intraperitoneal Infection with Tubercle Bacilli. P. Schmidt-Weyland.—p. 295.
*Remote Effects of Alcohol on Basal Metabolism. M. Zahn.—p. 304.
Immunization Against Dysentery. L. Otten and L. Kirschner.—p. 314.
*Reticulo-Endothelial System and Chemotherapy. C. W. Jungeblut. —p. 357.
One-Cell Culture. W. Levinthal.—p. 380.
*Tuberculous Infection with Minimal Amounts of Bacilli. W. Levinthal. —p. 337.
*Peroral Immunization Against Pneumococci. R. Kimura.—p. 390.
Chemotherapy with Antimony Compounds. G. Bock.—p. 396.
Action of Chemotherapeutic Agents in Vitro. P. Papamarku.—p. 407.
Immunization with Pneumococci Dissolved by Sodium Taurocholate. H. Meyer.—p. 416.
Immunization with Killed Tubercle Bacilli. B. Lange et al.—p. 426.
Immunization of Mice Against Rabies. P. Schmidt-Weyland.—p. 436.
Localized and General Infection. A. Schmidt-Ott.—p. 441.
The Reticulo-Endothelial System and Chemotherapy. A. Feldt and A. Schott.—p. 453.
Infections with a Single Streptococcus of Animal Origin. E. Marx. —p. 472.
Infections with a Single Anthrax Bacillus of Animal Origin. G. Z. Martos.—p. 477.

Vitality of Scarlet Fever Streptococci.—Hemolytic streptococci were obtained by Jettmar from all his 120 patients with scarlet fever. The cultures or the pharyngeal mucus dried on gauze and kept in a dark room contained viable streptococci for more than six months and produced the Dick toxin.

Remote Effects of Alcohol on Basal Metabolism.—Zahn found a moderately increased metabolism when making the test nine or ten hours after administration of from 80 to 100 Gm. of alcohol in various forms.

The Reticulo-Endothelial System and Chemotherapy.—Jungeblut injected india ink into one series of mice and in others he extirpated the spleen. The results of infection with recurrens spirochetes or with trypanosomes were graver in these animals than in the controls. Neosilverarsphenamine and Bayer 205, used respectively, in these infections, did not cure the animals in doses which where successful in the controls.

Tuberculosis Infection with Minimal Amounts of Bacilli.—Using from one to three tubercle bacilli isolated from a fresh culture Levinthal successfully infected three out of four guinea-pigs.

Peroral Immunization Against Pneumococci.—Large doses of killed pneumococci administered by mouth protected even adult mice against one hundred times the lethal dose of living germs. The immunization was effected more easily in young mice.

Zeitschrift für Kreislaufforschung, Dresden

19: 345-376 (May 15) 1927

Heart Rhythm in Cheyne-Stokes' Breathing. R. Fischer.—p. 345.

Zentralblatt für Chirurgie, Leipzig

54: 705-768 (March 19) 1927

Phlegmons of the Large Intestines. F. Otto.—p. 707.
Circumscribed Cavernous Hemangioma of the Capsule of the Knee-Joint. R. Bertelsmann.—p. 710.
"Palliative Resection" of Peptic Jejunal Ulcer. J. Koch.—p. 711.
Amputation Below the Knee. A. Lehrnbecher.—p. 714.
An Inlay for Treatment of Flat-Foot. E. Schneider.—p. 715.
Haglund's Roentgen Ray Anomaly of the Patella. L. Peterson.—p. 719.
Operative Closure of Artificial Anus. M. Kappis.—p. 721.
*Late Complication of Operation for Inguinal Hernia. B. Frankenberg. —p. 723.
*Carcinoma or Inflammation? H. Nölle.—p. 724.

A Late Complication of Operation for Inguinal Hernia.—Frankenberg records a case in which the bladder wall was included in a silk ligature used to close the inguinal canal in an operation for hernia. A diverticulum with stone formation resulted. The first symptoms, painful and frequent micturition, appeared six months after the operation. The condition was finally (after four years) diagnosed by cystoscopy and rectified by operation.

Carcinoma Developing Under the Picture of Inflammation.—The lesion described by Nölle began as a slight eruption on the left breast; two or three months later the entire breast was swollen and hard, the overlying skin red and edematous. The patient, a hospital nurse, now first sought medical advice. Fever was not present nor were the glands swollen. Biopsy resulted in the diagnosis of Paget's disease. Radical operation was out of the question because of the extent of the skin involvement. The lesion was treated as an inflammation, with autohemotherapy, and intensive roentgen irradiation was also given. These measures held it in check for a long time. A sudden extension of the process took place under the picture of erysipelas erythematosum, initiated by a chill and high fever, with itching and redness of the hitherto unaffected breast. The redness was succeeded by the appearance characteristic of cancer en cuirasse. Later, bone metastases developed. Death took place a year and a quarter after the onset.

Zentralblatt für Gynäkologie, Leipzig

51: 641-704 (March 12) 1927

*The Reticulo-Endothelial System in Pregnancy. R. Benda —p. 642.
*Explantation of Placenta and Decidua. K. Heim.—p. 653.
Lactic Acid in the Cerebrospinal Fluid in Eclampsia. E. Zweifel and R. Scheller.—p. 655.
Cirrhosis of the Liver and Pregnancy. L. Kraul.—p. 663.
Local Eosinophilia in Carcinoma. W. Lahm.—p. 669.
Habitual Breech Presentations. W. Reiprich.—p. 673.
Hastening the Onset of Labor. L. Recasens.—p. 680.
Rectal Analgesia in Obstetrics. N. Bloch.—p. 682.
Recurrent Double Pregnancy in a Duplex Uterus. O. Plumecke.—p. 688.

Biologic Importance of the Reticulo-Endothelial System in Pregnancy.—Benda believes that the reticulo-endothelial system has an important detoxifying function in pregnancy, during the exercise of which its cells frequently suffer injury. As a rule, they readily recover and continue to function, but they may fail to do so, and this failure is, in his opinion, the cause of toxicosis.

Explantation of Placenta and Decidua.—As culture medium, Heim used equal parts of fresh human plasma and hen plasma with the addition of human or chicken embryonal extract. The incubation time was from two to five days, the temperature 39 or 37.5 C. The two attempts with extra-uterine chorion were successful; there were a number of failures in attempts with the uterine placenta. However, there were two cultures of chorionic villi of the second month in which growth was as luxuriant as in the extra-uterine material. The culture of decidua from the second month was successful; this is the first time, in Heim's knowledge, that decidua cells have been cultivated.

Zentralblatt für innere Medizin, Leipzig

48: 505-528 (May 21) 1927

Lavage of the Esophagus in Cardiospasm. W. Sternberg.—p. 506.

Irkutskiy Meditsinskiy Jurnal, Irkutsk

5: 5-150 (Jan.-April) 1927. Partial Index

Influence of Various Occupations on Woman's Organism. M. P. Bushmakina.—p. 33.
*Calcium in Treatment of Incontinence of Urine. A. A. Alektoroff.—p. 63.
The Blood Picture in Erysipelas. P. J. Kaminer.—p. 71.
*Immunity in Malaria Coinciding with Goiter. M. Shwartsman.—p. 85.

Calcium in Treatment of Incontinence of Urine from Vagotonia.—Alektoroff employed pilocarpine and atropine tests on twenty patients with incontinence of urine. The parasympathetic tonus was normal in those in whom the disturbance was due to organic lesions of the urinary organs. Hyperexcitability of the vagus nerve was manifest in cases in which organic lesions were absent. The treatment of patients with vagotonia consisted in intravenous injection of from 5 to 10 cc. of an 8 per cent solution of calcium lactate. The injections were repeated a day apart. After three months, two patients thus treated recovered completely.

The Immunity Question in Malaria Coinciding with Goiter.—Shwartsman's observations were made in the Lena section of Siberia, where goiter occurs in from 70 to 80 per cent of the population. In the last three years malaria has been imported from central Russia. Among nineteen patients with goiter and malaria, in six the malaria ran a favorable course and subsided under the action of quinine. In thirteen, the malaria resisted treatment, or presented frequent and severe recurrences. The facts tend to confirm the theory that deficiency of the thyroid impairs the defensive forces of the organism against malaria, or possibly enhances susceptibility to the infection.

Klinicheskaya Meditsina, Moscow

5: 275-344 (March) 1927 Partial Index

Application of Heat to the Liver and Elimination of Bile. G E. Sorokin.—p. 296.
Fever in Cases of Biliary Calculi. F. P. Chekaloff.—p. 309.
*Oxygen Therapy in Epidemic Encephalitis. E. K. Sepp et al.—p. 318.

Oxygen and Permanganate in Treatment of Epidemic Encephalitis.—Three of eight patients who had epidemic encephalitis were treated with injections of oxygen; two with inhalations of oxygen and three with injections of potassium permanganate. About 300 cc. of oxygen was introduced beneath the skin of the hip and the injection was repeated at intervals of one day. The subcutaneous emphysema usually disappeared within two days. Three or four inhalations of oxygen were given three times each day, after meals. A dose of 1 Gm. of potassium permanganate in a 1 per cent solution was injected subcutaneously at intervals of one day. Fifteen injections of oxygen or of permanganate, or a six weeks' treatment with inhalations resulted in gain in strength and in amelioration of the disturbances of the vegetative system. The emotional activity and the motility improved. The changes in the blood consisted in increased concentration of hemoglobin and in appearance of atypic monocytes. Sepp and his co-workers assert that the treatment is able to avert infirmity if it is administered in the early stage of parkinsonism. It is without effect in cases in which stiffness is already present. In two cases with associated pulmonary tuberculosis, the condition grew worse under this treatment.

Russkiy Vestnik Dermatologii, Moscow

5: 113-224 (Feb.) 1927. Partial Index

*Cases of Lichen Planus Ruber in Moscow. A. P. Iordan.—p. 114.
Cases of Fox-Fordyce's Disease. F. V. Gintse.—p. 126.
Treatment of Arsphenamine Dermatitis with Roentgen Rays. L. S. Ginzburg.—p. 148.

Cases of Lichen Planus Ruber Observed in Moscow.—In recent years, Iordan says, lichen planus ruber has become more frequent in Moscow. The fact is apparently connected with the bad economic condition in the country. Eighty personal cases are reported, among them two in girls, aged 1½ and 10 years, respectively. Most of the patients were between 21 and 55 years old. The percentage of cases was the same in women as in men. The diffuse form of the lesion was present in fifty-seven cases, the localized form in the remainder. A familial form has never been observed. The disease developed usually in the winter. Disturbances of the nervous system are an important etiologic factor. In a few cases, the lesion appeared to be associated with local trauma. The influence of syphilis is indirect. Prolonged administration of arsenical preparations is the most effectual therapeutic measure. Mercuric iodide helps only in cases associated with syphilis. Under suitable treatment the prognosis is usually favorable.

Hospitalstidende, Copenhagen

70: 311-334 (April 7) 1927

*Paralytic Dementia and Its Connection with Antisyphilitic Treatment. J. C. Smith.—p. 311.
Ectopic Pregnancy. O. K. Svenningsen.—p. 324. C'td.

Paralytic Dementia and Its Connection with Antisyphilitic Treatment.—These investigations consist of a review of the case histories of patients admitted to the municipal hospital in Copenhagen between the years 1866 and 1925. Smith finds wide variations in the incidence of paralysis compared with the size of the population. During recent years it has diminished independently of the treatment of syphilis with arsphenamine. This is also true in Leipzig, Vienna and Rostock. This variation in frequency may be related to the frequency of syphilis but their incidence is not quite parallel, for in recent years paralysis has diminished in spite of an increase in syphilis. He fails to find any proof that arsphenamine therapy in syphilis is having the result of reducing the frequency of paralysis.

70: 335-358 (April 14) 1927

*Epilepsy with Chronic Epidemic Encephalitis. A. Wimmer.—p. 346.

Epilepsy with Chronic Epidemic Encephalitis.—This investigation of twenty-three cases of encephalitic epilepsy adds weight to the old notion that some of the true epilepsies are due to infectious brain diseases. Wimmer asserts that encephalitic epilepsy is caused by localized changes in the brain tissue, not by generalized toxin and metabolic disturbances, for researches indicate that the cerebral cortex seldom escapes involvement in chronic epidemic encephalitis. He further states that the degenerative process associated with the chronic inflammation might increase the tendency of the cortex to produce epileptiform seizures.

Ugeskrift for Læger, Copenhagen

89: 411-483 (May 19) 1927

Accidents from Electricity. E. von Holsetin Rathlou.—p. 391. C'td.
*Effects of Light on the Skin, Historically and Clinically Considered. C. Rasch.—p. 417. C'td.

Historical and Clinical Remarks on the Effect of Sunlight on the Skin.—Rasch reviews the historical development of the study of the effects of sunlight on the skin from the beginning of the last century to the present time. The so-called senile affections of the skin of the face may be developed by sunlight; such are pigment maculae, atrophic and achromatic changes, and local warty keratosis, sometimes followed by epitheliomatous formations. All these varieties were found on the face of an aged country woman but the temples and the regions around the parotid glands, which were always covered, were uninvolved.

89: 439-445 (May 26) 1927

Effect of Light on the Skin. C. Rasch.—p. 439. C'cn.
Strangulation-Ileus with Characteristic String-Formations from a Meckel Diverticulum. E. Thomsen.—p. 443.
Estimation of Blood Sugar. S. Prior.—p. 444.
Treatment of Epidemic Icterus. O. Olsen.—p. 444.

89: 455-482 (June 2) 1927

Fever in Ulcer of the Stomach or Duodenum. S. Bang.—p. 455.
*Use and Misuse of Pituitary Extract. E. Hauch.—p. 466.
A Case of Sprue in Denmark. J. E. Holst.—p. 471.

Use and Misuse of Pituitary Extract.—Since 1921, Hauch has employed small doses of pituitary extract, except in a few cases, such as rupture of the membranes in placenta praevia. As a rule he uses 0.2 cc.; sometimes not more than 0.1 cc., since in most cases 0.2 cc. acts just as well as 0.5 cc., and the risk of tetanic contractions is avoided. The effect is of shorter duration, but the dose may be repeated after an hour or longer. His opinion is, that the danger of pituitary extract will be diminished by employing small doses. It is necessary for the physician to stay by the patient as long as the effect of the pituitary extract lasts.

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. 89, No. 7 Chicago, Illinois August 13, 1927

THE UNEXPLORED FIELD OF PREVENTIVE MEDICINE IN PRIVATE PRACTICE *

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The U. S. Public Health Service is a medical organization. Its commissioned corps is composed entirely of doctors of medicine recruited from the ranks of the general profession. Its paramount duty may be said to be the conservation and improvement of the health of the inhabitants of this country, to the extent that the powers and facilities conferred and afforded by Congress make this possible. In performing this duty this service makes use of medical knowledge, the heritage of the centuries of patient and careful observation and experiment which our professional forebears have handed down to us and which we are all endeavoring to perfect and expand. I have made these statements to emphasize the fact that in appearing before this section as a representative of the Public Health Service I come as a medical man representing a medical body—one which shares the traditions, the training, the aspirations and, it must be confessed, the difficulties of the medical profession.

The point of view is different, but similar. The Public Health Service sees a sick nation and seeks to cure it; the practitioner sees a sick patient and endeavors to cure him. The difference of approach lies in the difference in material. When a sick person applies to a physician for treatment there may appear but little to do with regard to that particular patient and his immediate illness except to try to restore him to health. A sick nation, however, is made up of millions of persons only a proportion of whom are at any one time in the ordinary sense sick, but the rest of whom are constantly exposed to the danger of becoming ill. The national problem therefore includes not only the restoration of the sick to health but also the prevention of disease among those who at the time may be healthy.

The first part of this program has been left largely and wisely to the private practitioner. The sick person is an individual and requires individual treatment. The preventive part of the program, however, has been assumed to a great extent in this country by public health agencies for two principal reasons: first, that the general practitioner in America has not been trained to think and act in terms of preventive medicine; and, second, that many of the necessary measures can be applied only by the concerted action brought by a central official organization.

Public health organizations owe their origin to the medical profession. To it also they owe a large part of the scientific information on which they base their methods. To the observations and reports of medical men in practice they are constantly indebted for knowledge of the occurrence, the prevalence and the nature of the diseases which they attempt to combat; but, unfortunately, such is the tradition, the custom, the accepted mechanism of health practice in this country, that only to a slight extent have they utilized or attempted to make use of the enormous potential power of the practicing element of the medical profession in the cause of preventive medicine.

It must be acknowledged that public health agencies can clearly foresee limitations to what can be accomplished by concerted action through official agencies. The limits have by no means been reached, but there is no good reason for delaying the application of any potential help which would not introduce conflicting elements. And it would appear that if the 150,000 physicians in practice in this country could be enlisted in a serious effort to improve and conserve the health of the millions of patients and the families of patients with whom they come into contact, a tremendous impetus could be given to the cause of preventive medicine. It would seem as if under these circumstances we should hold preventable disease as it were between two millstones: the one breaking up the large lumps or masses, the other grinding away at the individual particles.

We are all aware that some not insignificant attempts have been made by members and by associations of the medical profession to increase the interest of practicing physicians in the prevention of disease as distinguished from its cure. Some of these attempts have unfortunately been associated with other projects about which considerable controversy has arisen. I need only mention a few topics to indicate what is meant. Such captions as "state medicine," "contract practice" and "life extension" can hardly be mentioned without arousing various and conflicting emotions in the minds of a medical audience. And yet, with each of the movements represented by these captions, some element of disease prevention by practicing physicians has been associated. My address has nothing to do with a discussion of these factors. The opportunities for preventive work to which I would call attention are not necessarily associated with any movement, organization or development affecting the profession. They concern the individual practitioner alone, and I speak as one physician to another.

I have mentioned that limitations to what can be accomplished by official mass health work are in sight. There is still much to do in the extension and consolidation of current useful activity, and doubtless new meth-

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* Chairman's address, read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 18, 1927.

ods will develop as time goes on; but always there will remain the fact that the collective health status of the nation will depend to a very considerable extent on what the individual citizen does as regards his own health and that of his children. Extensive attempts have been made by health organizations to excite the interest of the citizen in the protection of his health. All the ingenious machinery of the leaflet, the poster, the illustrated lecture, the health exhibit and the radio broadcast have been utilized. The visiting health nurse and the consultation clinic are familiar illustrations of the organized attempt to bring information to the public. But it would appear that what would seem *a priori* to be the most fruitful source of advice in matters of personal and domestic hygiene had, in general, been deplorably neglected.

The doctor of medicine, while dealing with an art which may be criticized by mathematicians as inexact, nevertheless has devoted much of the time of his training period to fundamental natural sciences and is accustomed to think in terms of biology, chemistry and physics. He is also, next to the priest, the man of all men who comes most intimately into the confidence of the people. Unfortunately for the present purpose, he has been trained to think more about disease than about health; but there is no more adaptable person in all the world than the physician, and if he can be persuaded of its desirability he can soon learn to enlarge his point of view.

It may justly be inquired what incentives there are which would induce physicians to expand their point of view and become more interested and more active in the prevention of disease. There are several which readily occur to me, and doubtless others exist. The most important incentive is the opportunity for service to humanity. This appeal has never been made to physicians in vain. The second incentive which may be mentioned is the fair promise of increasing remuneration. It is believed that a false sense of delicacy and false interpretation of ethics is what has stood in the way of developments along this line rather than the unwillingness of patients to pay for advice in advance of actual illness. The third item which I will mention is hardly so much an incentive as a compulsion. If I read the signs of the times aright, the time is not far distant when the public is going to demand protective advice from the physician. The time is coming, I think, when a physician will be severely criticized for failure to offer advice on hygienic matters when he has had a chance to make the necessary observations. His reply that he was employed to treat a case of rheumatism, not to criticize the family diet, will come to be considered inadequate.

These observations may appear visionary or chimerical. In support of their soundness I submit the evidence that in other countries, further developed along these lines than we are simply because they have had longer experience, the state of things which I have sketched is already the accepted order. In some instances it goes even further. The official health organization still has important functions, but the bulk of the health work is done by the practicing physician, who is held morally and often legally responsible for its proper performance. I am not arguing for an increased intimacy of official relationship between the physician and the government. I very seriously doubt its desirability. I merely wish to invite attention to a great service to humanity which the profession can perform, and which it seems probable that it will be called on to extend before many years have passed.

The time assigned permits me to discuss but briefly two important additional questions in connection with my subject. First, Is the medical profession equipped at the present time to offer sound, dependable and consistent advice on all the questions of domestic and personal hygiene which may be propounded by those seeking advice? Frankly, I do not see how it can be, or could be expected to be. Little attention has been paid to this aspect of medicine in the colleges up to within the most recent years, and hardly anywhere at the present time can the formal instruction in a purely medical course be described as fully adequate. Nevertheless, there are many sources of reliable information, and, as has been said, the physician is an adaptable person; a physician who can no longer learn is of dubious value to the public in any medical capacity. Many physicians, of course, are already fully equipped to take up this work, and have themselves made some of the most valuable contributions to preventive medicine.

The second question is, What would be the scope of the activities contemplated? There seems to be no good reason for limiting this so long as it can be kept within the subject matter on which a physician can be expected to speak with authority and out of the field which is strictly the province of public health authority. It would be proper, I should think, for the family physician to examine into the sanitary condition of the home itself, and to call attention to obvious health hazards intrinsic therein, as well as to become familiar with the physical and mental status and habits of the members of the family. On the other hand, questions dealt with by local sanitary law should be referred to the health authorities.

The Public Health Service has felt so strongly that an immense power for good was not being adequately utilized that it is very desirous of helping along a process of evolution which, although much hindered and delayed, appears to be ultimately inevitable. It has considered whether the publication of a "check list of opportunities for domestic health practice" would be acceptable to the profession and in any considerable demand by it. It would seem possible with suitable counsel to prepare such a list which should be convenient for reference by physicians desirous of developing this branch of medical activity.

It would be a fair question to ask in just what ways the practicing physician can contribute more to the prevention of disease than he is doing at present. It is believed that ways would become sufficiently apparent if the mental attitude were changed to include the idea. A few illustrations will show some of the procedures that readily occur. One of the first and easiest steps would be the full carrying out of one of the oldest tenets of medicine, which is to treat the patient rather than the disease. This presupposes a thorough examination of the patient and the discovery of any incipient disease or predisposition which he may have in addition to, or associated with, the particular complaint which brings him to the physician. This examination should include not only the physical body but also the whole man—his habits and his mental worries and how he deals with them. It is not to be supposed that every physician will be a competent psychiatrist; nevertheless, present-day training should be sufficient, taken in conjunction with the intimate relation of confidence that should exist between physician and patient, to lay the basis for some very effective work in mental hygiene.

Thus far I have considered what may be done in the office and with office patients. When the physician visits alone the twelve to twenty hours, of exposure to water 40 degrees or so below the body heat. Surf bathing is a healthful exercise so far as the reactive power of the body is competent to deal with the stimulus of cold and the force of the waves. The secondary effect of a surf bath, as most of us know, is, after a few hours, delightfully sedative and often conducive to sleep.

Now, in a given case, if we want to produce a stimulating or exciting effect on the circulation of the blood and a tonic effect on the heart and blood vessels, it is possible to do so by using water considerably above or below the temperature of the body surface. An "indifferent" bath is usually understood to range from 94 to 95 F. In that medium one can lie for hours, days, weeks or even months without calling on the inherent heat regulative apparatus to preserve an equilibrium. This is taken advantage of in treating states of mental excitement or depression, and in the form of the so-called continuous bath is commonly employed in hospitals for the insane. No well equipped institution of this kind is today without this valuable adjunct to treatment. Such hospitals as the U. S. Government Hospital for the Insane, the Pennsylvania Hospital, that at Waverley, Mass., and many others have been quick to recognize its value, and I wish I could give here the details of carrying out this useful measure. The duration of the bath is from eight to ten hours a day, and the most refractory patient, as a rule, soon learns to enjoy its comfort. This has been a real advance in the treatment of the insane.[1]

Another stimulus in world-wide use in the treatment of typhoid is the Brand bath and its modifications, such as spraying and sponging with cold water and the accompanying vigorous rubbing. Those of us who can look back thirty or forty years know its value in stimulating the nervous system and thus fortifying the patient to conquer the infection. The modern graduate will hardly know what the Brand bath is, at least in this country; but he should be taught the great value of this measure or the modifications in appropriate cases.

The use of cold applications in pneumonia has had some ardent advocates; but, if I am not mistaken, there is, especially in dealing with bronchial pneumonia, a gradual reversion to the more comfortable measures, such as warm moist compresses and jackets of wool, with stimulating applications. In lobar pneumonia cold air is still looked on favorably, but even placing the patient's bed in the open air in roof wards, to use an incongruous expression, seems to be going out.

Another example of the tonic character of cool applications, or minus applications as they are sometimes called, is the carbonated or Nauheim bath. These baths, as applied at Nauheim, start usually at 92 F. (33 C.). The stimulus of relatively cool water is enhanced by the carbonic acid gas occurring naturally in the supply or artificially generated, as the case may be. Another stimulus present in these baths is due to the chlorides, naturally present or added as required.

These baths have a tonic effect on the heart and blood vessels, and are believed to reduce the size of a dilated heart and thus promote its contractile power.

What is the present status of these baths? Between twenty and thirty years ago carbonated baths were undoubtedly used much more than at present. The Great War checked for a time the popular vogue of the Nauheim Springs as well as others in Germany and Austria-Hungary, except for military purposes. They are coming back to their former popularity. At Nauheim the total number of persons taking treatment in 1926 was 33,296, and the number of baths given to them was 368,010. This was slightly less than in 1924. It is claimed that Nauheim has a capacity for giving 6,000 baths daily.

The artificial preparation of carbonated baths is not difficult but at present is not employed so much in this country, probably on account of the necessity of having competent persons administer them. They cannot be given, or should not be given, in a routine manner but by very careful physicians or unusually skilled attendants. Few physicians are competent to prescribe these baths in detail or to administer them. They take more time and require attention to too many details to be generally employed. There are a few places in the United States where these baths are given under suitable observation, notably at Glen Springs and Saratoga Springs, N. Y., at Galen Hall in Atlantic City, at the Hospital of the University of Pennsylvania, and probably at other places not known to me.[2]

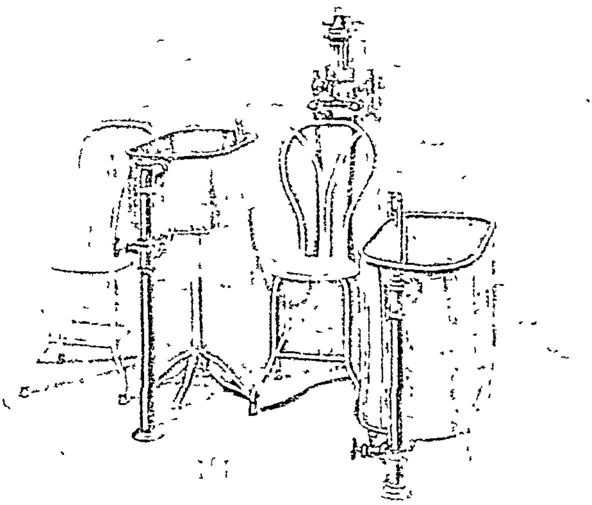

Fig. 1.—Arm and leg whirlpool baths with Birdwell aerators and Leonard thermostatic mixing valve. (Courtesy of J. L. Mott Company.)

I am informed that during the last year at Saratoga Springs approximately 1,500 "Nauheim" baths were given in a total of 95,000 given in the naturally carbonated waters.

Turning now to applications of warm or hot water, *that is to say, water at 6, 8 or 10 degrees or more above* the bodily heat, we have great resources, not only in our natural thermal springs but, thanks to the features of modern hydrotherapeutic apparatus, in modern means for applying water accurately gaged for temperature, pressure and duration with an admirable precision and with safeguards unknown to the pioneers in medical hydrology.

The modern control table is an indispensable, though expensive, means of providing the various douches so necessary for a large group of patients. Following treatment in a cabinet provided with incandescent lamps or a steam coil to the point of inducing perspiration, the circular or needle douche, the jet douche and possibly the alternating, or Scotch, douche are used. The

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1. Ring, A. H.: Hydrotherapy in Mental Disease, M. J. & Record 124:773 (Dec. 15) 1926.

2. McDill, J. R.: Nauheim Baths for Cardiovascular Degenerations, U. S. Vet. Bur. M. Bull. 2:669 (July) 1926.

Dr. Robert Fields Library
C. M. C. Medical College

late Dr. Simon Baruch, a pioneer in hydrotherapy, insisted on the great value of what he termed "neurovascular training." This seeks to bring about, in a body prepared by the heating process in the cabinet, a response by means of the succession of douches of varying temperature and force. It is an exercise of the blood vessels, comparable to the exercise of the muscles. The heat of the cabinet, ranging from 140 to 165 F., dilates the blood vessels in the skin and withdraws the blood to some extent from the internal organs to the surface. The subsequent contraction and dilatation as the colder douches are applied, and especially as the alternating hot and cold douche strikes the spine and the limbs, encourages an active response in the venous and arterial network in the skin, and provides a more rapid change in the blood supplying the interior organs and large nerve centers. This response may be moderate early in the course of treatment but grows with repetition and brings about a corresponding improvement in nutrition and a sense of well being much appreciated by the average patient. It has been called an educational bath because it brings out and develops latent powers.

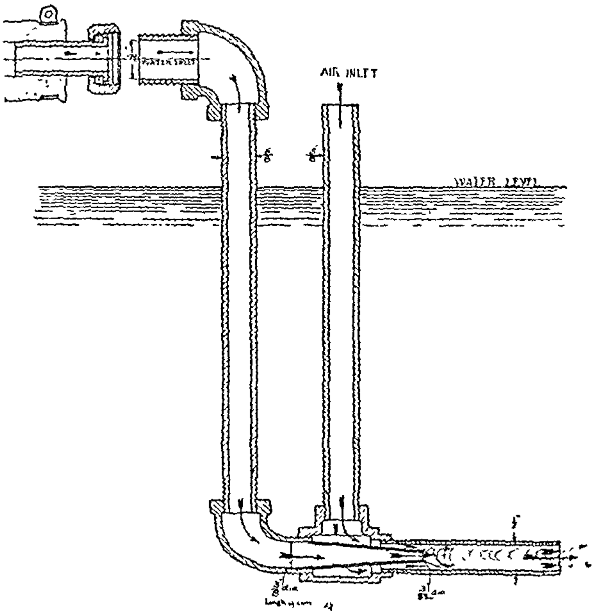

Fig. 2.—Plan of aerator designed by Dr. Bardwell of the Veterans' Bureau. Air is sucked down and mixed with the heated water controlled by the mixing valve. (Courtesy of W. B. Saunders Company.)

A good example of the hyperthermal bath and one that produces a distinct stimulus is the whirlpool bath. This is one of the later devices in hydrotherapy and originated in France, where it is known as "les bains de l'eau courante." During the recent war it was improved by Dr. Fortescue Fox of London, and it was still further improved by surgeons at the Walter Reed Hospital, Washington, D. C., and by Dr. Bardwell of the Veterans' Bureau, Oteen, N. C. It is a local bath with reservoirs for either the arm or the leg, and arrangements for mixing the hot and cold water so as to provide proper temperatures. These range in practice between 104 and 120 F. (40 and 49 C.). Air under pressure is introduced below the surface of the filled bath, which is then given a swirling motion as water mixed with air is forced out by the aerator, which is the essential part of the apparatus. The duration of the bath varies from five to forty-five minutes and it may be repeated daily. These baths are therefore classed as local, hyperthermal baths, and they have a wide range of application.

Space will not permit me to go into the manifold uses of the whirlpool bath, but I may quote this statement by Major Offutt of the Walter Reed Hospital:

> We find the whirlpool bath extremely beneficial for orthopedic cases in general. We consider it the best type of heat for stiff joints such as we get in fracture cases. We do not use the whirlpool for arthritis or any nerve involvements, for we have found that in these cases the symptoms were aggravated by its use.
>
> We usually start the whirlpool bath at the temperature of the patient's tolerance and increase up to his endurance for a period of fifteen minutes.

Captain Bardwell now at the Veterans' Bureau Hospital at Oteen, N. C., and formerly of the U. S. Army post at Fort Snelling and of the Walter Reed Hospital, prefers the whirlpool bath to the baker. He has had success in treating fractures and sprains, and in treating flatfoot and chilblains. It stimulates the circulation and prepares the part in a very short time for massage, diathermy or resistant movements.

The expense of the apparatus runs into hundreds of dollars, and to avoid this Dr. Norman E. Titus[3] of New York has devised a portable whirlpool bath which he described recently. It is nothing more nor less than an electric washing machine capable of ejecting 300 cubic feet of water a minute. This machine is attached to an ordinary washboiler which has a spigot at the bottom so as to empty the water easily when used. When filled, the washboiler weighs about 100 pounds (45.5 Kg.). Of course it has not the finer qualities of the apparatus made by Mott.

The actual therapeutic value of these measures was assessed by Anders[4] in 1924. Among acute diseases he laid great stress on the value of hydrotherapy in typhoid, influenza, pneumonia and tonsillitis. Among chronic diseases he instanced chronic tuberculosis, neurasthenia, rheumatism and gout, valvular and myocardial heart disease, obesity and chronic nephritis. Appropriate measures were mentioned, and a reasonable estimate of the value of hydrotherapy in these various conditions is given. Nothing, however, was said about the important class of the insane, and also the use of hydrotherapeutic measures in acute infections of a surgical nature. Naturally, one has to speak more or less within one's own field of work.

I have mentioned the continuous bath, and that is an unquestioned help in treating the insane; the same may be said for the blanket pack, wet or dry.

I have visited a good many hospitals for the insane where hydrotherapy is employed, and in no place that I am acquainted with is hydrotherapy used more than in the U. S. Government Hospital for the Insane, Washington, D. C. The original plant was installed thirty years ago, and has been enlarged as the immense service of this hospital has required. I think this one fact alone proves the great value of the treatment, as no treatment whatever would be carried out for thirty years altogether among the insane unless it had great merit.

Dr. William A. White, March 17, wrote me as follows:

> During the past twenty years we have at various times installed a number of continuous bathtubs in the departments of the hospital.

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[3] Titus, N. E.: Physical Therap. **44**: 589 (Nov.) 1926.

[4] Anders, J. M.: The Indications for and Methods of Employing Hydrotherapy, J. A. M. A. **83**: 246 (July 26) 1924.

> All baths are employed for their sedative, eliminative and tonic effects. By use of hydrotherapy we are able to dispense with chemical and mechanical restraint. Continuous baths are used daily throughout the hospital. Other hydriatric methods employed here in the treatment of patients are packs, shower, needle spray, sitz baths and hot air baths. While the cold, tepid and hot packs are administered in the hydrotherapy units of the hospital, they are also administered by trained attendants throughout the wards, to quiet disturbed patients at any time during the twenty-four hours of the day.
>
> We feel that this method of treatment is of high therapeutic value, and our records show that upwards of 10,000 treatments are given in one month in the hospital, and in the course of a year more than 100,000 treatments are given.
>
> We believe that hydrotherapy as a therapeutic agent is of great value in mental hospitals for treating psychotic symptoms, especially in cases of excitements and depressions.

Dr. White's associate, Dr. L. D. Hubbard, agrees in saying that there is no treatment which surpasses the continuous bath for insane patients. It is a remedy *par excellence;* but as it requires many tubs and an assistant in charge of every one or two patients, comparatively few can get the benefit of the treatment, which lasts several hours. Hence it is that packs are more frequently prescribed.

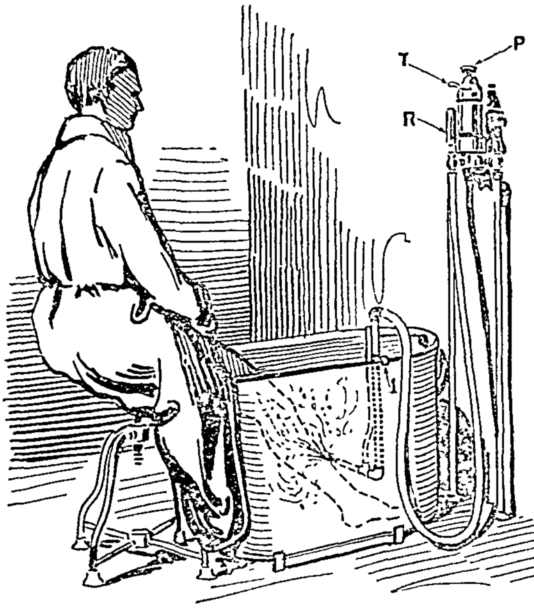

Fig. 3.—Leg bath in operation. A thermometer in the mixing valve shows the temperature. The position of the aerator may be altered by moving screw at 1. (Courtesy of W. B. Saunders Company.)

OBESITY

Hydrotherapy is used for the reduction of weight with more or less success in connection with systematic exercise and dieting. In itself it is not sufficient.

There is a type of the overfat high living man who has eaten and drunk without very serious effects, and who periodically takes some form of reduction cure in order to keep his weight down and, incidentally, enjoy life once more in his accustomed way. Patients of this type are likely to have dilated stomachs and sluggish livers. They probably have learned to use laxative mineral waters or salts, and in that way obviate any serious illness.

Besides a dilated stomach, careful examination will sometimes reveal a dilated or fatty heart, a slightly dusky look, yellowish conjunctiva, a quick pulse and a tendency to dyspnea. Hydrotherapeutic measures should therefore be carefully instituted and, if possible, the patient should be seen shortly after his first bath.

The visitors at spas generally include cases of this kind, and they demand suitable treatment. It should be based always on individual requirements and capabilities. Most of these subjects are in middle life, are of sedentary habit, and have consequent muscular weakness. The heart should be observed at the start and all through the course of treatment. If baths are ordered, a daily record should be kept of the weight and also of the heart action. From time to time the blood pressure should be recorded. Few go to hospitals for the reduction of weight, but many go to spas. The further they go and the more sacrifices they make to undergo the cure, the more conscientious they are in adhering to discipline.

Hydrologic measures are not sufficient in the reduction of weight unless associated with a regimen including diet and exercise. The combination of measures properly balanced will in most cases accomplish good results, as all practitioners at mineral water spas will know. The visitors at such resorts include a notable proportion of these cases and they demand suitable treatment. Experience proves that a regimen should not be entered into lightly or inadvisedly but carefully and with due respect to individual requirements and capabilities. I believe that hot water bathing yields better results than cabinet baths, cold baths or sea bathing. The latter more surely stimulate the appetite, and there is not the same degree of loss through perspiration. After hot full baths followed by hot blanket packs applied to the entire body there is often a loss of 1, 2 or even 3 pounds as determined by careful weighing before and after treatment. Some of this loss is replaced inside of twenty-four hours, but there is a gradual downward tendency in the weight curve that encourages the patient to persevere. At the end of three or four weeks 10 or 12 pounds (4.5 or 5.4 Kg.) may be safely lost in persons weighing in the neighborhood of 200 pounds (90 Kg.).

Space does not allow me to take up the other measures, such as douches, packs, fomentations, and compresses. Nor will it be possible to consider the benefits to be derived from balneology or the use of mineral springs. This is a separate field.

SUMMARY

Water may act as a powerful stimulus according to its temperature. The indifferent bath, or continuous bath, is useful in treating excited mental states. The Brand bath and its modifications are most valuable in typhoid. Nauheim baths, cabinet baths and douches, and whirlpool baths are valuable in circulatory disorders.

Obesity is favorably influenced by hot water bathing and subsequent general hot dry packs. This treatment should be associated with appropiate diet, and is best carried out at spas.

CONCLUSION

I do not know of a better way to emphasize the extensive use made of hydrotherapy than by quoting the letter written last month by Mr. Winthrop Adams, acting director of the U. S. Veterans' Bureau, in reply to my request for information. He says:

> Hydrotherapy is an important part of physiotherapy as carried on by the Veterans' Bureau in its hospitals and dispensaries. Eight dispensaries and thirty neuropsychiatric and general hospitals under the jurisdiction of this bureau have well equipped hydrotherapy departments. The usual installation consists of a douche table with thermostatic control,

needle shower bath, tub for continuous baths, also in general hospitals and dispensaries, whirlpool arm and leg baths and in neuropsychiatric hospitals additional continuous flow tubs and facilities for giving hot and cold packs In some cases the sitz bath is added

The tuberculosis hospitals, as a rule, have a very small equipment for hydrotherapy, as it is not considered that this form of treatment is especially indicated with the majority of those patients Trained technicians are assigned to the hospitals and dispensaries to give these treatments on prescription from the medical officers in charge of the cases

Statistics from the last annual report of this bureau indicate that, during the fiscal year 1926, 8 632 hydrotherapy treatments were given in tuberculosis hospitals, 309,939 in neuropsychiatric hospitals, 87,498 in general hospitals and 39,430 in dispensaries, with a total of 445,499 treatments

It may be of interest to note that 27 per cent of the physical therapy treatments in neuropsychiatric hospitals consisted of hydrotherapy, while in the dispensaries and hospitals for tuberculosis and general cases less than 9 per cent of such treatments consisted of hydrotherapy This is indicative of the benefits which are obtained from this form of treatment for psychoneurotic and psychotic cases

Mr Adams also enclosed a copy of a suggested outline of a lecture on hydrotherapy which was distributed to the hospitals and dispensaries to provide a basis for a lecture to be prepared by one of the medical officers for delivery at the station

ABSTRACT OF DISCUSSION

Dr James M Anders, Philadelphia I am in full accord with the views expressed by Dr Hinsdale on the objects of hydrotherapeutic methods The profession, as a whole, has shown far too little interest in hydrotherapeutic measures Indeed, there has been clearly observable a return from a time some thirty years ago, when the Brand baths and their modifications were duly appreciated, to more convenient methods of applying heat and cold, such as woolen jackets, the ice bag and local stimulation The latter forms of treatment do not increase resistance to infection On the other hand the application of cold water does raise bodily resistance by stimulating the nerve centers and the cardiovascular system, thus helping nature to overcome the acute infections, such as typhoid In the case of pneumonia, however, Brand baths are not to be thought of because the necessary handling of the patients in connection with their administration is too exhausting On the other hand, sponging of the anterior portion and the sides of the chest, as well as the extremities, with a bath mitten wrung out of water at a temperature of 80 degrees, to be lowered 2 degrees with each subsequent bath until 70 degrees is arrived at is serviceable The use of sponge baths in cases of bronchopneumonia, particularly among children, is useful Each bath, however, must be followed by gentle toweling so as to bring about a good reaction I am partial to the cold pack in severe types of bronchopneumonia in young patients, they far surpass any form of drug treatment As pointed out by Dr Hinsdale, a prolonged cold bath produces first a stimulating effect, and then, because it makes a notable demand on the heat regulating centers of the brain, is followed by a sedative effect, and, rarely, even exhaustion I have seen this condition as a result of a too prolonged ocean bath The most invigorating effect is obtained from an ocean bath of short duration I would like to refer briefly to the continuous or so called indifferent bath at a temperature of 94 or 95 degrees, mentioned by Dr Hinsdale as a means of combating violent nervous excitement and great psychic disturbance in the insane This continuous or prolonged bath has a much more beneficial effect than any form of drug treatment of which we have knowledge It is also true that in certain infections physical agents produce better results in their management than any form of drug treatment, and that these may reinforce one another In the treatment of chronic rheumatism, the combined use of moist heat and manipulation is far better than either of these agents alone

Dr G K Abbott, Takoma Park, Md Too much cannot be said relative to the importance of the vasomotor element in the perverted physiology of a large number of diseases The impression prevails that hydrotherapy is of value chiefly in chronic diseases or as a means of rehabilitation from the injuries of war or civil life, and that it can be applied only in an institution In acute infectious fevers, and in the acute and chronic infections of surgical practice, there lies a field for hydrotherapy which has been but little explored Hydrotherapy is life saving in serious pandemic influenza and in influenzal pneumonia I have used it with satisfaction in acute pelvic infections, such as metritis, cellulitis, salpingitis and pyosalpinx Many pelvic infections will be entirely cleared up by these measures, and that very rapidly Such conditions as remain in the line of pyosalpinx or tubo ovarian adhesions producing pain must of necessity be treated surgically In either pneumonia the use of derivative hydrotherapy concluded with a vasomotor tonic causes it to disappear so rapidly as almost never to give us concern In hyperthyroidism, especially in the exophthalmic goiter type, cold applications are well borne and the reaction is prompt and highly satisfactory In Raynaud's disease heat alone gives relief In the extension of lymphangitis from local infections, such as those of the hand, if the entire hand and forearm to above the elbow is immersed alternately in hot and cold water, a large number of such cases will not require surgery at all, others will need only the lancing of abscesses If treatment is begun early, very few ever come to the point of requiring even the amputation of a finger

Dr H D Offutt, Washington, D C At the Walter Reed Hospital we are using four of the leg whirlpool baths and two for the arm They are not expensive The post plumber made them out of infant's bathtubs We are using those more in sprains and fracture cases, with stiff joints following the immobilization The action of the whirlpool allows us to manipulate the joint to a far greater extent, with a great deal less pain, and we thereby get more motion in the joint and get that motion more rapidly than if we did not use the whirlpool

Dr Guy Hinsdale, Hot Springs, Va Very few medical schools give adequate instruction in the basic principles of hydrotherapy At the University of Pennsylvania, under Dr Tait MacKenzie and Dr Nylin, a course is given which is, I think, quite valuable, but I have inquired in other hospitals and colleges and find instruction lacking This is really the source of the lack of interest in hydrotherapy as a feature of treatment by the profession Of course, when it comes to apparatus, there is some difficulty there also Apparatus of this type is expensive At the Walter Reed Hospital, in which Dr Offutt has charge of the physical therapy department, it is in daily use

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The Gregarious Instinct of Man —The gregarious instinct is one of the human instincts of greatest social importance, for it has played a great part in molding societary forms The affective aspect of the operation of this instinct is not sufficiently intense or specific to have been given a name The instinct is displayed by many species of animals, even by some very low in the scale of mental capacity Its operation in its simplest form implies none of the higher qualities of mind, neither sympathy nor capacity for mutual aid Mr Francis Galton has given the classical description of the crude instinct Describing the South African ox in Damaraland, he says he displays no affection for his fellows, and hardly seems to notice their existence, so long as he is among them, but, if he becomes separated from the herd, he displays an extreme distress that will not let him rest until he succeeds in rejoining it, when he hastens to bury himself in the midst of it, seeking the closest possible contact with the bodies of his fellows There we see the working of the gregarious instinct in all its simplicity, a mere uneasiness in isolation and satisfaction in being one of a herd Its utility to animals liable to the attacks of beasts of prey is obvious —McDougall Social Psychology, pp 86 87

PARANASAL SINUS INFECTION AND SWIMMING *

FREDERICK E. HASTY, M.D.
NASHVILLE, TENN.

Some rhinologists feel that the infections in the upper respiratory tract resulting from swimming are due primarily and directly to the bacteria of the water getting into the nose and the paranasal chambers. The type of bacteria found in diseases of the paranasal sinuses, middle ear and upper respiratory tract has received little consideration. These infections have become so frequent in recent years that almost every family has in one way or another been brought to grief as a result of swimming. This problem reduces itself to one of the important features of public health at the present time, and the burden of the solution is resting on otolaryngologists. Public health officials and sanitarians have made tremendous efforts to make the swimming pools safe for swimmers. Unfortunately, their efforts have not resulted in the desired effect, though through no fault of their own. From the standpoint of otolaryngology the problem has been misinterpreted and hence approached from the wrong angle. I have made certain tests with the hope of determining some of the factors that may be of prime importance.

BACTERIOLOGY

The bacteriology of water in swimming pools has been studied heretofore principally from the standpoint of gastro-enteric infections. Sanitarians promptly saw the advisability of applying to swimming water the standard tests which have been developed for drinking water. These tests and requirements have been quite sufficient for drinking water, but when the water that may be suitable for swimming is considered, it should be remembered that the type of bacteria may be as important as, or even more important than, the total number of bacteria. The type of bacteria found in swimming water is one of the basic factors in the problem. In the summer of 1926 I found that the injecting of water from swimming pools directly into the middle ears of guinea-pigs produced an otitis media of some degree of severity in all pigs so inoculated. Also, by opening the middle ears under strictly aseptic conditions, I recovered, by cultures from these infected ears, several types of pyogenic bacteria; in fact, practically all types of bacteria found in the upper respiratory tract. I have observed that the average severity of these experimental infections varies with the prevailing epidemics of colds in the community. At one time during more or less of an epidemic of gastro-enteric infections, unusually large numbers of *Bacillus coli* were recovered. Some of these organisms stood the test of paratyphoid even in high dilution.

STERILIZATION OF SWIMMING POOLS

For practical purposes, complete sterilization of pools is not considered to be always possible. Comparative sterilization by using different chemical and physical agencies has been zealously attempted. Chlorine, in one form or another, has proved to be one of the most satisfactory chemicals. Filtration and ultraviolet ray treatment are comparatively satisfactory. The water for my experimental work I have taken from pools where one of these methods was employed, and I have been unable to determine any difference in the results of either method. The water in the pool during the time of swimming represents the combined washings, so to speak, of the mucous membrane of the nasal chambers and the mouth of every swimmer. This I have demonstrated in the following test: Sterile powdered charcoal was thrown into the pool and a class of boys ranging in age from 8 to 12 years was allowed to take the usual swimming exercises. Many of the swimmers blew water from their mouths, but none of them expectorated as they interpreted the term. For this purpose they had been taught to use the drain gutter. At the end of the swimming period an inspection of the nasal chambers was made. In every boy particles of charcoal could be found in different parts of the nose with a deposit on one side or another of the middle turbinate. In other words, the water had reached the vulnerable part of the nose. The mucous membrane was shrunken, was more or less bleached, and showed little or no evidence of the normal covering of mucus. This observation, I believe, establishes the fact that water in the majority of swimmers gets well into the nasal chambers, therefore carrying with it the contamination of the pool and at the same time adding to the pool whatever bacteria may be present in the particular swimmer's nose. The infections are likely transmitted from one individual to another during the swimming period before the sterilization process has time to influence the bacterial content materially.

The fact that water reaches the vulnerable portion of the nose in the majority of swimmers establishes several possibilities: (*a*) The water produces a temporary shrinking and bleaching of the mucous membrane adjacent to the ostia of the anterior group of paranasal sinuses. This makes it possible for water to find its way directly into the sinuses, thus implanting the contamination of the pool and transmitting whatever bacteria may be present in the nasal chamber proper to the paranasal sinuses, where in all probability there is not a local resistance to the newly implanted bacteria. (*b*) The second phase of shrinking the mucous membrane is congestion or edema. This would likely obstruct drainage and ventilation from the sinuses that may have become infected as outlined in the foregoing. The situation then would be favorable to the growth and development of the foreign bacteria. (*c*) The mucous membrane opposite septal spurs may be shrunken so as to allow free passage of water and in this way expose the mucous membrane to contamination; and later in the congestive stage the organisms would be happily situated for moisture and warmth. Then to blow the nose vigorously would likely cause the mucus which is now contaminated to be forced into the adjacent cavities. This, I think, is the likely sequence of events in those individuals who have narrow noses, impinging middle turbinates, or obstruction due to septal deformities.

EXPERIMENTAL INFECTIONS

For experimental purposes it would be desirable to produce paranasal sinus infections in ordinary laboratory animals, but one is confronted by a marked dissimilarity of anatomic structures as compared to man. The antrums in the animals are shallow pockets with very large outlets at the dependent part, so that they will not retain liquid. I have attempted to overcome the peculiarity of these cavities by fixing guinea-pigs in an upright position, so that water could not drain from the antrums. Several pigs were placed in this position and water from the swimming pools was dropped into the nose at fifteen minute intervals for two hours. The pigs were then taken down and observed for local and systemic signs and symptoms of infection. Some pigs did not seem to get any local or systemic infection, while others showed a moderate local infection and a few showed systemic involvement.

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* Read before the Section on Laryngology, Otology and Rhinology at the Seventy-Eighth Annual Session of the American Medical Association, Washington, D. C., May 19, 1927.

Two of these are perhaps worthy of mention. Cultures were first made from the nasal chambers with a platinum loop, and sufficient traumatism was done to cause a few drops of blood to appear in the nose. Different writers have considered it possible for inrushing water to produce enough traumatism to favor the development of fulminating infections. These pigs showed little evidence of local infection, but within two or three days definite evidence of systemic involvement was apparent. A control pig that was in the same pen continued to thrive. On the fourth day one pig was found dead. At postmortem examination macroscopic evidence of pathologic changes was not found. The heart blood culture yielded *Bacillus coli* and streptococci. The following day the other pig died. Postmortem observations and cultures were practically identical with the first.

This experiment is not conclusive within itself, but I think it does suggest the possibility of septicemia coming from the original infection in the paranasal sinuses as a result of contamination from swimming water. This is also a possible explanation of some of the very marked systemic reactions that are encountered at times as a result of swimming. It is quite probable that an individual suffering from a virulent infection may contaminate a section of the swimming pool, and that the next swimmer may get an overdose of this infection into his sinuses or mouth, with a resultant marked invasion taking place before nature can build up resistance. In all my experimental work I have found considerable variation in the severity of the infections. It is probable that with many other important possibilities the virulence of the particular type of infection has been the determining factor in these outstanding cases, and one is led to the conclusion that the same possibility doubtless holds true in man.

CLINICAL OBSERVATIONS

1. I have observed that as a group the sinus infections resulting from swimming are often severe in their nature, and that the ethmoids and frontals are frequently involved.
2. Children especially are likely to pick up infections in pools. I have seen a number of boys who got sinus infection from one pool as a result of being required to "duck" their heads. Without an exception every boy recovered in the course of a few weeks after leaving off swimming.
3. Persons who have previously suffered from paranasal sinus infection or nasal obstruction are very likely to develop acute attacks following swimming.
4. The high percentage of frontal and ethmoidal infections is due to virulent foreign bacteria reaching the vulnerable part of the nose, and to a lowered local and systemic resistance. An overdose of foreign bacteria of marked virulence for which the individual does not have previous immunity is a probable explanation that quite likely holds true in children.

MAN'S LACK OF ADAPTABILITY TO AQUATIC LIFE

Man's lack of adaptability to aquatic life is really quite apparent, and, if asked the direct question, perhaps all intelligent persons would frankly state that man does not possess the particular apparatus which would make him capable of behaving in the water in the same way as aquatic animals. Our knowledge, however, does not determine our conduct in this instance, for throughout the length of time man has indulged in swimming either through necessity or for sport or self-exploitation in the accomplishment of aquatic feats. Taylor says, concerning this point:

> I have endeavored to show the modifications which the aquatic animals have for their environment and the striking absence of such adaptations in man. I have noted the means with which nature has endowed the aquatic animals for preventing water from gaining entrance to the respiratory tract, the means they have for maintaining their body temperature in cold water, and the absence of these provisions in man. Man is essentially a terrestrial being, and his anatomy and physiology are not modified for a water environment. When man is out of his normal sphere he must understand what limitations nature has placed on him, and not ignore the fundamental laws that regulate his own well being.

CONCLUSION

The final question is, What shall we as otolaryngologists do to protect our trusting patients? Shall we continue as individuals to warn them against the hazards of swimming, or shall we as a group condemn swimming for those, at least, who are not capable of appreciating the warnings that should be posted about every pool? I dare not alone answer the question for the entire profession.

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ABSTRACT OF DISCUSSION

Dr. H. Marshall Taylor, Jacksonville, Fla.: It is a matter of historical record that the ancients had methods of filtration in 400 B. C., and that the Chinese used alum in their public baths before the Christian era began. Yet, in the last few years, in spite of the wonderful work done by the public health officials in the matter of the sanitation, maintenance and construction of bathing places, it has become very evident that sanitation alone will not solve this important problem of preventive medicine. Nature did not endow the respiratory columnar ciliated epithelium with the power to withstand the vitiating effect of water. Man has not the means of protecting the respiratory epithelium from water as all other air breathing animals leading an aquatic existence have. The protective mechanism of the nose consists mainly of two factors: (1) the secretion of mucus, which is inhibitory to bacterial growth, if not bactericidal, and (2) the power of ciliated epithelium to sweep this mucus in which the bacteria become enmeshed toward the pharynx-esophagus to be disposed of. Anything that interferes with these two functions, whether it is mechanical, chemical or thermal, breaks down nature's barriers and renders the nasal cavity and its appurtenances susceptible to infection. This nasal mucus is washed away during diving, and the nasal mucosa is exposed to the destructive action of water, by the drawing out of saline elements, thus causing edema, acidosis of the cells, loss of ciliary activity and eventual cell death, as described by Fenton. Dr. Hasty's observation on the deposit of charcoal deep in the nasal cavity, after scattering it in the swimming *tank*, demonstrates that water in a swimming pool does reach the vulnerable part of the nose. This becomes more important when we realize that the wavelike motion of the cilia is impaired or even stopped entirely by the reduction of the temperature of the nasal mucous membrane, and by direct contact with the chemicals which are now being used in modern pools. In addition, there is chilling of the body surfaces, which decreases the motility and phagocytic activity of the leukocytes, thereby lowering the resistance to infections which are already harbored in the upper air passages. Dr. Fenton says that persons with wide open nasal passages, straight septums and normal turbinates should not be denied the privilege of swimming, while those with contorted nasal passages, especially if there is a history of so-called catarrh, and those in whom the turbinates are prone to engorgement or are actually hypertrophic, should not be allowed in the water. Children with adenoid obstruction must not dive or swim. Proper habits of breathing during the crawl stroke or the dive must be taught; exhalation through the nose whenever the face is submerged and inhalation through the mouth whenever the mouth is out of water should be taught during the first floating lessons before actual swimming or diving takes place. The question of reducing these infections is only to be solved by the education of the public.

Dr. Joseph D. Heitger, Louisville, Ky.: As Professor Zuckerkandl pointed out long ago, the mucous membrane of the turbinates is very firm and hard, and is similar to the firm tissues in the palm of the hand and the sole of the foot. It is difficult to distinguish the various layers, and for that reason Hajek has described the structure of the middle turbinate as an "involucrum." When we consider the capsule of the ethmoid and the middle meatus, we find an entirely different condition; there the mucous membrane is thin and very easily irritated. As we well know, most sinus infections begin with the swelling, congestion, and disturbance of drainage and ventilation in this very vulnerable part of the nose, the ethmoid capsule and middle meatus, where Dr. Hasty found the charcoal. I have often wondered since this problem has come up just how much swimming teachers and professional swimmers suffer from sinus disease. There is a possibility that these persons are in excellent physical condition. Swimming is one of the best exercises, and doubtless it keeps their general immunity at such a high stage that the local irritation is overcome. A number of children's organizations require a certain amount of swimming and diving. The children who show any pathologic condition of the nose should be excused from that part of their work.

Dr. George F. Fiske, Chicago: So far as I know, the largest infected swimming pool is Lake Michigan. Every summer I see a number of patients with furunculosis or with acute otitis media. As to the prevention, it would be very difficult to put enough charcoal into Lake Michigan to be of service. Several of us have actually advised our patients not to allow their children to swim there.

Dr. M. M. Cullom, Nashville, Tenn.: Many of us here have been practicing long enough to have antedated the period of swimming pools. We used to see cases of abscess of the middle ear from bathing in the running streams. Then we saw cases of middle ear abscess as a result of douching the nose. Then came the swimming pool. When they opened up the swimming pool in Nashville, about twenty-five years ago, I began to notice boys dropping in with abscess in the middle ear. Then I noticed three business men who had been going in the pool together come in with acute sinus trouble. One day nine boys came in with abscesses of the middle ear; I incised the drums of the nine boys in one day. I sent word to the secretary of the Y. M. C. A., whose pool the boys had been going to, that something was wrong. He was rather indignant. I asked him what precautions they took. They took absolutely none. People went in the swimming pool without taking a bath and without having been stripped and examined; there were no efforts at cleanliness made, and the water was very seldom changed. The Y. M. C. A. then instituted strict rules that all persons should take a bath before going into the pool and should be stripped beforehand to see if they were all right. The water was changed regularly, and the number of cases began to fall off. Any one who gets water in the nose is liable to get an abscess of the ear, because he is likely to wash the infected secretions from his own cavities into the eustachian tubes and set up trouble. It is in such cases that a middle ear abscess results from douching the nose. The supposition is that the reason persons douche the nose is that they have some sinus trouble, and the same theory holds true in those cases of middle ear abscess and mastoid in which there is an infected antrum. In at least 80 per cent of my mastoid cases, I have been able to demonstrate an infected sinus, usually an antrum and generally on the same side as the mastoid. I do not believe that any swimming pool can be kept clean. After a few people go in and blow their nasal secretions into the water, the water is infected. I believe that the swimming pool is a menace. There is less danger, of course, in going into running water, or water that is changed constantly, but I do not believe that any swimming pool can be kept clean.

Dr. H. A. Rothrath, Westchester, Pa.: A friend on the swimming team of the last Olympic games told me when he came back from Paris that practically every member of that team had discharging ears. In the way of prophylaxis, I have always applied one of the organic silver salts in the nose, after swimming. I do not know whether it does any good or not, but I have tried it.

Dr. F. E. Hasty, Nashville, Tenn: I would judge that when expert swimmers got infections, most likely there was at least one individual in that water who was suffering from a severe infection, and these swimmers were probably infected from that one individual.

TIME OF CONCEPTION AND OF OVULATION IN RELATION TO THE MENSTRUAL CYCLE *

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Although a few cases are on record which indicate that menstruation in woman, as in the monkey,[1] may occur independently of ovulation, it is held that, in general, ovulation occurs at a fairly definite time in each period, producing a corpus luteum which regulates the time of onset of the succeeding menstruation. Evidence for this has been obtained from patients at operation or from autopsies.[2] The actual day is given as between the eighth and the seventeenth, the exact time varying with the author.

Woman differs from the female in other species examined, except the macaque, in allowing coitus at any time during the cycle, and the question accordingly arises whether conception may occur at any time. This would appear to be unlikely if ovulation occurs at a definite point in the cycle, for it is improbable that the ovum preserves the power of fertilization for long after it is extruded from the follicle. In the rabbit, Hammond has shown that the ovum is not capable of being fertilized after four hours have elapsed from the time of ovulation, while in the same species spermatozoa retain their power of fertilization for only thirty hours after their deposition in the female tract.[3] If these time relations are true also for man, it renders a long continued period of fertility difficult to explain except on the assumption that ovulation may occur at any time, which, taking into consideration the regularity of the cycle, would appear to be unlikely according to present views. Possibly, however, such irregularities as do exist, and also irregularities in the length of the cycle in individuals, do represent differences in the time of ovulation. From this one might deduce the cause for the lengthened period of fertility found when the subject is studied by statistical methods.

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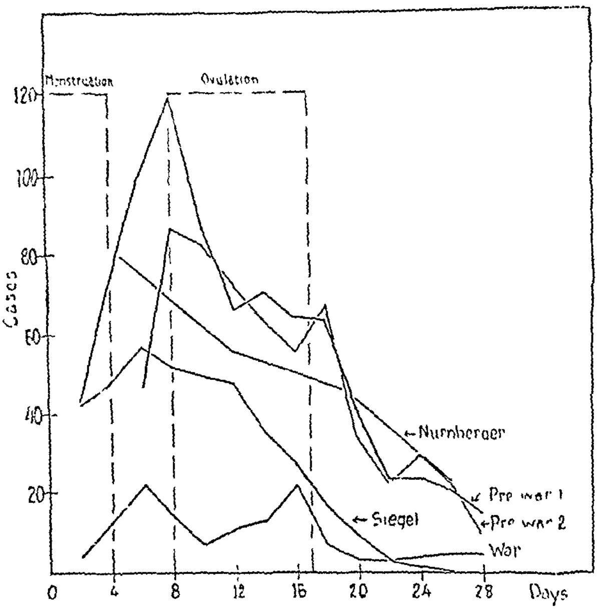
* From the Department of Anatomy, University of Rochester School of Medicine and Dentistry.

[1] Corner, G. W.: Ovulation and Menstruation in Macacus Rhesus, Contributions to Embryology **75**: 75, 1925. Heape, W.: The Menstruation and Ovulation of Macacus Rhesus, Phil. Trans. Roy. Soc. London, 1897, 188 B, p. 134.

[2] Shaw, W.: The Relation of Ovarian Function to Menstruation, J. Physiol. **60**: 193, 1925. Schroeder, R.: Ueber die zeitlichen Beziehungen der Ovulation und Menstruation, Arch. f. Gynäk. **101**: 1, 1914. Ruge II, C.: Follikelsprung und Befruchtung, Arch. f. Gynäk. **109**: 302, 1918. Meyer, R.: Ueber Corpus Luteum Bildung beim Menschen, Arch. f. Gynäk. **93**: 382, 1911.

[3] Hammond, J., and Asdell, S. A.: The Vitality of the Spermatozoa in the Male and Female Reproductive Tracts, Brit. J. Exper. Biol. **4**: 155, 1927. Hammond, J., and Marshall, F. H. A.: Reproduction in the Rabbit, Edinburgh, 1925.

Although many studies of the relation of fertility to the cycle were made in German clinics during the war, that of Siegel[4] is the only one that appears to have attracted notice in other countries. This worker investigated material gathered at Freiburg in the obstetric clinic from the wives of soldiers having short and infrequent leaves. He drew up a curve of fertility within the cycle which gave high fertility for the first fortnight, declining during the third week and exhibiting absolute sterility in the fourth week. These results were arrived at by ascribing a pregnancy initiated during an eight day leave to each day of the eight and drawing the resulting curve. Apparently, he had 320 cases to draw on. In support of the period of sterility at the end of the cycle he quotes a colleague, Wohler, who collected data of women in which pregnancy occurred within five weeks of marriage. Of sixty-five in which the marriage occurred during the eight days before the onset of menstruation, pregnancy did not occur in a single case until after the first menstruation following marriage.



Curves of conception: Graph plotted at two day intervals; point taken at end of the period. Prewar 1, material from Ahlfeld et al.; Prewar 2, material from Issmer and Fürst; Nurnberger, data given for irregular periods, plotted to center of period; war data from Jaeger and Pryll; Siegel, average of two curves; percentages, and not number of cases, are represented.

Other observers in various German clinics have obtained similar results so far as the nature of the curve of sterility goes, but they do not find absolute sterility in the last period. Coitus may result in fertility at any stage, but this is least likely to occur just before the onset of the menstrual period. I have collected a large number of cases from the prewar literature which have a bearing on the problem. I have submitted these to analysis and present the results in the form of a chart, the meaning of which is discussed in this paper. In the majority of these cases, the data are given by Hecker and Buhl,[5] Ahlfeld[6] and Schlichting[7] in their studies on the duration of pregnancy. When analyzed, these figures show a state of affairs essentially similar to that of the war collections. It may be noted that these studies, when united, give an average duration of pregnancy of 279.9 days from the beginning of menstruation, and of 269.7 days from coitus. The difference, 10.2 days, corresponds fairly closely with what is believed by gynecologists to be the usual interval between the beginning of menstruation and ovulation. It must be noted that the dates given for menstruation may refer to the first or last day of menstruation, but the investigators themselves consider the date to refer to the first day, which it probably does in the majority of cases. However, as a few may refer to the last day, it would be fair to allow an extra day for the average difference in duration of pregnancy when reckoned from coitus and from *menstruation*, making an interval of eleven days. That is, the average for the duration of pregnancy from menstruation may be taken to be from the second day instead of from the first. The number of cases dealt with in this study is 568.

Both in the study of the duration of pregnancy and in that of the relative date of conception, I have omitted data in all cases in which fecundation is said to have occurred before the onset of the menses and those in which an interval greater than twenty-eight days is recorded, for as no details of variation in the length of the cycle are given, it was considered advisable to adopt a standard cycle of twenty-eight days. When more than one date was given for conception the case has been omitted unless the coitus was given as occurring on one of two adjacent days, when the earlier has been taken as the date of fecundation. A smaller number of cases have been added from data given by Zollner,[8] Gossrau,[9] Enge,[10] Winckel,[11] Hassler,[12] and Kjolseth,[13] bringing the total number up to 814. The curve obtained from these figures has been plotted for two day intervals to smooth out minor variations. It shows a steady rise from the beginning of the menstrual period to the eighth day, then a rapid fall, becoming more gradual, until the eighteenth day, after which the fall is very rapid. Complete sterility is not reached, but it may be noted that in the last eight days only 10.3 per cent of the total number of conceptions occurred.

Issmer has given a set of 423 cases which meet the requirements. These begin on the day after the menses cease, which has been taken as the fourth day, the series beginning on the fifth day. Furst has given a similar series of 186 cases. These figures when added show a peak at the eighth and tenth days of the cycle, with a gradual decline to the eighteenth day, after which the fall is rapid, 14.1 per cent of the cases falling within the last eight days.

From the data collected during the war, a curve has been constructed from the figures given by Jaeger[14] and Pryll.[15] These number 133. The curve is somewhat more irregular than the preceding ones. A maximum is reached at six days, with a fall to ten days; another maximum at sixteen days with a rapid fall afterward,

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5. Hecker, C., and Buhl, L.: Klinik der Geburtskunde, Leipzig; 1861.
6. Ahlfeld, F.: Beobachtungen über die Dauer der Schwangerschaft, Monatschr. f. Geburtskunde **34**: 180, 1869.
7. Schlichting: Statistiches über den Eintritt der ersten Menstruation und über die Schwangerschaftdauer, Arch. f. Gynäk. **35**: 310, 1889.
8. Zollner: Inaug. Diss., Jena, 1885.
9. Gossrau: Inaug. Diss., Marburg, 1902.
10. Enge: Inaug. Diss. Leipzig, 1902.
11. Winckel: Klinische Vorträge, pp. 292-293.
12. Hassler: Inaug. Diss., Zurich, 1876.
13. Kjolseth, M.: Untersuchungen über die Reifzeichen des neugeborenen Kindes, Monatschr. f. Geburtsh. u. Gynäk. **38**: 216, 1913.
14. Jaeger, F.: Befruchtung Krieg und Geburtshülfe, Zentralbl. f. Gynäk. **41**: 857, 1917.
15. Pryll, W.: Zur Frage der Lebensdauer der Spermatozoen, Ztschr. f. Geburtsh. u. Gynäk. **79**: 522, 1917.

the curve being low and steady after the twentieth day. The number of conceptions in the last eight days is 12.8 per cent of the of the total.

Nurnberger[16] gives a series of 206 cases, but his results are not given in detail. A rough curve is drawn from his data, but as his figures are given only at wide intervals comparison is difficult. His number of conceptions in the latter part of the cycle is greater than those of other workers, for the percentage of fecundations taking place in the last five days is 11.2, a percentage of the same magnitude as the eight day figures previously given.

It is to be noted that none of these other collections give the absolute sterility found by Siegel toward the end of the cycle. Siegel also states that his cases showed a large preponderance of male births in the early part of the cycle, followed, after a period of even ratio, by a preponderance of females. His figures together with those gathered from other workers, are given in the accompanying table.

Sex Ratio of Births Relative to the Time of Conception *

Authority	1-9 Days		10-14 Days		15-23 Days		Total	
	♂	♀	♂	♀	♂	♀	♂	♀
Siegel	37	7	4	9	3	20	41	36
Nurnberger	41	39	29	27	26	21	96	87
Jaeger	32	16	8	14	12	17	52	47
Data from Hecker and Buhl, and Schlichting	93	82	46	48	63	58	202	188
Furst	40†	18†	23	28	28	35	91	81

* In this table ♂ indicates male; ♀, female.
† From five to nine days.

The materal from other workers shows that this relation does not hold for any other series that has been collected, the sex ratio being fairly normal whenever conception may occur.

The considerable spread of the time at which fertilization may occur is remarkable and quite different from what is known to be the case in other mammals in which coitus or artificial insemination is effective for limited periods only. This in itself suggests a limited fertile life for the sperm and for the ovum in most species, and the supposition is borne out in the rabbit by direct investigation. If a similar condition is allowed for the human being, one has to fall back on the possibility of variation in the time of ovulation. If this occurs at a definite time after the commencement of menstruation, the variability of the duration of pregnancy should be less when reckoned from menstruation than when reckoned from coitus. The reason for this is that whenever coitus, a variable, occurs, initiation of pregnancy can date only from the time of ovulation postulated as at a constant interval from the onset of menstruation. If, on the other hand, ovulation should follow coitus or be regulated in its time by this, the duration of pregnancy from the effective coitus should be the less variable. Evidence for the view that spontaneous ovulation may be accelerated by coitus was found by Marshall[17] in the sheep, within the limits of the time of estrus. In the series that I examined, it was found that the standard deviation of the duration of pregnancy reckoned from the beginning of menstruation is 12.0 days, while from conception it is 11.7 days. The probable error in each case is ± 0.2 day, and the difference is not significant.

These figures are so close together that it would seem that neither menstruation nor coitus exercises a markedly preponderating influence on ovulation. The conclusion is reached, therefore, that the time of ovulation is very variable within the cycle, but from a study of the conception curves it is seen to be more frequent during the first fortnight than during the last fortnight, assuming that equal opportunity for conception is allowed at all stages in the cycle, which is probable in view of the reliance placed by many in so-called safe periods. If this is so the rôle of the corpus luteum as the regulator of the cycle must be less than has been supposed. However, it must not be forgotten that in the data on which this conclusion is based, allowance cannot be made for the possible influence of the varying length of the cycle. Issmer gives the average duration from menstruation of pregnancy in 533 patients with a four week type of menstrual cycle as 278.8 days, and in 667 patients with an irregular type as 278.6 days, an insignificant difference, but the irregularity may be equal on either side of the mean. He gives twenty cases with a three week cycle, giving an average duration of pregnancy of 271.6 days, a length which certainly suggests that the duration of the cycle may be a factor in determining the length of gestation when reckoned from the onset of menstruation.

This variation would apparently occur through a reduction in the length of the menstruation-ovulation interval, but the number of cases is too small for satisfactory conclusions to be drawn from them. The argument for a curtailed ovulation phase becomes stronger, however, for the duration of pregnancy from conception is substantially the same in each type, being 269.3 days in ninety-five cases of the four week type; 267.8 days in eleven cases of the three week type, and 268.0 days in 522 cases of the irregular type. The evidence seems to suggest that while the time from ovulation to menstruation may be relatively invariable, that from menstruation to ovulation is very variable indeed. Consequently, the corpus luteum does influence the time of onset of menstruation to a marked degree, but the time required for the development of the resting follicle to the stage necessary for ovulation varies considerably with the individual. It may be that the older investigators who held that ovulation occurs during menstruation may sometimes have been correct in cases with cycles of very short duration.

SUMMARY

Curves showing the relation of fertility to the menstrual cycle in woman, drawn from data from a variety of sources, are substantially the same. Fertility is higher in the early part of the cycle, but falls rapidly from the sixteenth to the twentieth day. There is little evidence in favor of a period of complete sterility.

Differences in the duration of pregnancy when reckoned from the onset of menstruation and from conception are interpreted as indicating that the pre-ovulation phase is extremely variable in its length and the postovulation (corpus luteum) phase relatively constant. It is on these lines that an interpretation of variation in the length of the menstrual cycle may be sought.

The time of conception is held to have no effect on the sex-ratio.

Crittenden Boulevard.

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[16] Nurnberger: Kreigzeugung und ihre wissenschaftliche Verwertung, Munchen. med. Wchnschr. 65: 252, 1918.

[17] Marshall, F. H. A.: The Oestrous Cycle and the Formation of the Corpus Luteum in the Sheep, Phil. Tr. Roy. Soc., London, 1903, 196 B, p. 47.

HEXYLRESORCINOL IN URINARY TRACT INFECTIONS

THERAPEUTIC EFFECT *

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AND
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Through the courtesy of Dr. Veader Leonard, a large supply of hexylresorcinol has been placed at the disposal of Dr. Hugh Cabot for study of its therapeutic value at the University Hospital. During the past two years we have used the drug in about 200 cases of upper urinary tract infections. In general our results have been less brilliant than those reported by Leonard,[1] Henline,[2] Brown,[3] Wynne,[4] Elliott and Barbour, McCurry[5] and others.[6] As this clinic deals largely with patients with chronic diseases the vast majority of which come to us by virtue of their ability to resist the usual therapeutic measures, it seemed that our results would be of interest. On the other hand, the real test of any urinary antiseptic is its efficacy in this type of case. Acute infections that respond to any one of a dozen of the ordinary procedures do not require a new curative agent.

Of the entire group of patients treated with hexylresorcinol, only eighty-two have been controlled with sufficient accuracy to warrant their presentation as evidence for or against the value of the drug. In about 10 per cent, treatment was discontinued because they were unable to tolerate a full dose. Those cases of advanced pyonephrosis which we believed to be hopeless from the outset were discarded with two or three exceptions. Many patients were symptomatically relieved temporarily and discontinued the drug at intervals, contrary to our advice. These were discarded as

TABLE 1.—*Observations in Eighty-Two Cases of Urinary Tract Infection Treated with Hexylresorcinol**

Case Number	Age	Sex	Diagnosis	Duration of Symptoms Before Treatment	Days of Treatment	Dose, Gm.	Ureteral Catheterizations	Bacterial Culture: Bladder	Bacterial Culture: Right Kidney	Bacterial Culture: Left Kidney	Results: Not Improved	Results: Improved	Results: Cured	Final Culture
1	21	♀	Acute pyelitis	1 wk.	115	0.6	0	Staphylococcus albus	....	....	+	..	..	B. coli; Staphylococcus albus
2	18	♂	Acute pyelitis	2 mo.	95	0.6	2	Staphylococcus, streptococcus	Staphylococcus	Negative	..	..	+	Negative
3	21	♂	Acute pyelitis	2 mo.	[illegible]	0.6	1	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus		..	+	Negative
4	19	♀	Acute pyelitis	2 days	120	0.6	1	B. coli	....	B. coli	..	+	s	B. coli
5	26	♀	Acute pyelitis	3 days	90	0.6	0	Staphylococcus albus	....	....	..	..	.	Negative
6	25	♀	Acute pyelitis	2 days	65	0.6	1	B. coli	B. coli	....	..	+	..	B. coli
7	38	♂	Acute pyelitis	1 wk.	90	0.6	2	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
8	24	♀	Acute pyelitis	Few days	39	0.6	4	B. coli	B. coli	B. coli	..	+	..	B. coli
9	42	♂	Acute pyelitis	3 wk.	29	0.6	3	Negative	Negative	Negative	..	..	+	Negative
10	16	♀	Acute pyelitis	2 days	90	0.6	0	B. coli	....	....	+	.	..	B. coli
11	6	♀	Acute pyelitis	11 days	40	0.6	4	B. coli; Staphylococcus albus	B. coli	B. coli	..	+	s	B. coli; Staphylococcus albus
12	30	♂	Subacute pyelitis	5 days	50	0.6	3	B. pyocaneus	B. pyocaneus	Staphylococcus albus	.	+	..	B. pyocaneus
13	23	♂	Subacute pyelitis	5 days	54	0.6	0	B. coli	....	....		..	+	Negative
14	[illegible]4	♀	Subacute pyelitis	3-4 days	110	0.6	2	B. coli	B. coli	B. coli	+	..		B. coli
15	31	♂	Subacute pyelitis	1 wk.	36	0.6	0	B. coli	....	....	.	+	s	B. coli
16	15	♂	Subacute pyelitis	1 mo.	80	0.6	1	Streptococcus	....	Staphylococcus albus	..	.	+	Negative
17	48	♂	Chronic pyelitis	2 yr.	90	0.6	2	Staphylococcus albus	Negative	B. coli; Staphylococcus albus	..	..	+	Negative
18	67	♀	Chronic pyelitis	2 yr.	30	0.6	2	B. coli	B. coli	B. coli	+	..	..	B. coli
19	34	♂	Chronic pyelitis	Several years	190	0.6	0	Staphylococcus albus			+	..	..	Staphylococcus albus
20	40	♂	Chronic pyelitis	4 yr.	80	0.6	0	B. coli	....	....	.	+	..	B. coli
21	31	♀	Chronic pyelitis	3 mo.	110	0.6	2	B. coli	B. coli	B. coli	+		..	B. coli
22	23	♂	Chronic pyelitis	1 yr.	120	0.6	0	Staphylococcus albus	....	....	.	+	..	Staphylococcus albus
23	60	♀	Chronic pyelitis	9 mo.	69	0.6	0	B. coli	.	....	..	+	..	B. coli
24	24	♀	Chronic pyelitis	2 yr.	150	0.6	1	B. coli	....	B. coli; staphylococcus	..	+	..	B. coli
25	41	♂	Chronic pyelitis	2 yr.	110	0.6	1	B. coli	Streptococcus; staphylococcus; B. coli	....	+	..	..	B. coli
26	34	♀	Chronic pyelitis	3 mo.	110	0.6	4	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
27	40	♀	Chronic pyelitis	0 yr.	130	0.6	4	B. coli	Staphylococcus albus	Staphylococcus albus	..	+	..	B. coli
28	26	♀	Chronic pyelitis	1 yr.	115	0.6	6	B. coli	....	B. coli; staphylococcus	+	..	..	B. coli
29	21	♀	Chronic pyelitis	1 yr.	140	0.6	0	B. coli	....	....	+	..	..	B. coli
30	26	♀	Chronic pyelitis	1 mo.	41	0.6	0	B. coli	....	....	..	..	+	Negative
31	42	♂	Chronic pyelitis	6 mo.	61	0.6	2	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
32	25	♂	Chronic pyelitis	4 yr.	114	0.6	5	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	s	Staphylococcus albus
33	33	♀	Chronic pyelitis	5 yr.	110+	0.6	4	B. coli	Negative	B. coli	..	+	.	B. coli
34	29	♂	Chronic pyelitis	2 yr.	85	0.6	6	Staphylococcus albus	Negative	Staphylococcus albus	..	..	+	Negative
35	52	♀	Chronic pyelitis	3 yr.	70	0.6	5	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
36	42	♂	Chronic pyelitis	2 yr.	77	0.6	3	Staphylococcus albus	Negative	Staphylococcus albus	..	..	+	Negative
37	57	♂	Chronic pyelitis	3 wk.	100	0.6	0	B. coli	.	....	..	+	s	B. coli
38	49	♂	Chronic pyelitis	2 yr.	102	0.6	0	Staphylococcus	Staphylococcus	Negative	+	..	..	Staphylococcus
39	31	♀	Chronic pyelitis	1 yr.	51	0.6	3	....	Staphylococcus	Negative	..	..	+	Negative
40	42	♀	Chronic pyelitis	1 yr.	90	0.6	2	Streptococcus	Staphylococcus	Negative	.	..	+	Negative
41	25	♂	Chronic pyelitis	1 yr.	180	0.6	6	B. coli	M. tetragenus	M. tetragenus	+	.	.	B. coli

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TABLE 1.—*Continued* *

Case Number	Age	Sex	Diagnosis	Duration of Symptoms Before Treatment	Days of Treatment	Dose, Gm.	Ureteral Catheterizations	Bacterial Culture: Bladder	Bacterial Culture: Right Kidney	Bacterial Culture: Left Kidney	Results: Not Improved	Results: Improved	Results: Cured	Final Culture
42	27	♂	Chronic pyelitis	2 yr.	75	0.6	2	B. coli; Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
43	66	♀	Chronic pyelitis	6 yr.	40	0.6	6	....	Staphylococcus	Staphylococcus	..	+	..	Staphylococcus
44	39	♀	Chronic pyelitis	3 mo.	50	0.6	2	....	Staphylococcus	Staphylococcus	..	..	+	Negative
45	51	♂	Chronic pyelitis	2 mo.	73	0.6	0	B. coli	....	....	+	..	..	
46	30	♀	Chronic pyelitis	2 yr.	50	0.6	4	....	Staphylococcus	Staphylococcus	..	..	+	Negative
47	50	♂	Chronic pyelitis	2 yr.	75	0.6	6	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
48	46	♂	Chronic pyelitis	3-4 mo.	40	0.6	2	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	..	+	Negative
49	44	♀	Chronic pyelitis	1 yr.	100	0.6	2	Staphylococcus; streptococcus	Staphylococcus	Staphylococcus	+	..	..	Streptococcus
50	38	♂	Chronic pyelitis	18 mo.	80	0.6	0	B. coli	....	....	+	..	..	B. coli
51	51	♂	Chronic pyelitis	8 mo.	73	0.6	2	Staphylococcus	Staphylococcus	Staphylococcus	+	..	..	Staphylococcus
52	57	♀	Chronic pyelitis	12 yr.	36	0.6	2	B. coli	Staphylococcus albus	Staphylococcus albus	+	..	..	B. coli
53	29	♀	Chronic pyelitis	1 yr.	53	0.6	2	Staphylococcus	Staphylococcus	Negative	+	..	..	Staphylococcus
54	27	♀	Chronic pyelitis	4 mo.	95	0.6	7	B. coli	B. coli	B. coli	..	+	..	B. coli
55	22	♀	Chronic pyelitis	6 mo.	30	0.3	0	B. coli	....	....	+I	..	..	B. coli
56	22	♂	Chronic pyelitis	1 mo.	61	0.6	0	B. coli; staphylococcus	....	....	..	..	+	Negative
57	60	♂	Chronic pyelitis	6 mo.	89	0.6	2	B. coli	B. coli	B. coli	..	+	s	B. coli
58	47	♂	Chronic pyelitis	2 yr.	72	0.6	0	Staphylococcus	....	....	..	+	..	Staphylococcus
59	56	♂	Chronic pyelitis	3 mo.	85	0.6	0	B. coli	....	....	..	..	+	Negative
60	35	♀	Chronic pyelitis	3 mo.	110	0.6	4	Staphylococcus	Staphylococcus	Staphylococcus	..	+	s	Staphylococcus
61	45	♀	Chronic pyelitis	6 yr.	53	0.6	1	B. coli	Negative	....	..	+	..	B. coli
62	34	♀	Chronic pyelitis	2 mo.	63	0.6	2	B. coli	B. coli	Negative	..	..	+	Negative
63	28	♀	Chronic pyelitis	9 mo.	90	0.45-0.6	2	B. coli	B. coli	B. coli	..	+	..	B. coli
64	42	♂	Subacute pyelitis, cirrhosis liver	3 wk.	7	0.6	2	Staphylococcus	Negative	B. alkaligenes	+I	..	..	Staphylococcus albus
65	44	♂	Prostatectomy, subacute pyelitis	2 yr.	200	0.6	17	Staphylococcus; streptococcus; B. coli	Staphylococcus; B. coli	Staphylococcus albus	..	+	..	Staphylococcus albus
66	24	♂	Subacute pyelitis, cystitis, prostatitis	2 yr.	80	0.6	4	Staphylococcus; streptococcus	Negative	Negative	..	..	+	Negative
67	39	♀	Nephrolithiasis	3 yr.	50	0.6	4	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	..	+	..	Staphylococcus albus
68	42	♂	Chronic prostatitis, chronic pyelitis	10 yr.	150	0.6	7	B. coli	B. coli	B. coli	+	..	..	B. coli
69	25	♂	Chronic prostatitis, chronic pyelitis	2 yr.	100	0.6	6	Staphylococcus albus	Staphylococcus albus	Staphylococcus albus	+	..	..	Staphylococcus albus
70	45	♂	Pyonephrosis	4 yr.	50	0.6	4	B. coli	Staphylococcus	Staphylococcus	+	..	..	Staphylococcus
71	40	♂	Nephrolithiasis	4 yr.	94	0.6	3	B. coli	Staphylococcus aureus	Negative	..	+	..	B. coli
72	18	♂	Bladder stone	3 mo.	50	0.6	0	Staphylococcus	....	....	..	+	s	Staphylococcus
73	19	♂	Ureters transplanted, exstrophy of bladder	2 days	15	0.6	0	....	....	....	..	+	s	
74	33	♀	Chronic pyelitis, interstitial cystitis	3 yr.	117	0.6	4	B. coli	Negative	B. coli	+	..	..	B. coli
75	46	♂	Chronic pyelitis, ureteral stricture	3 mo.	33	0.6	4	....	....	Streptococcus; diplococci; Staphylococcus albus	..	..	+	Negative
76	59	♀	Chronic pyelitis, diabetes	1 yr.	42	0.6	3	B. coli	B. coli	Negative	..	+	..	B. coli
77	63	♂	Chronic pyelitis, chronic prostatitis	6 yr.	48	0.6	0	B. coli	....	....	..	..	+	Negative
78	61	♂	Pyonephrosis	Several years	60	0.45	3	B. coli; pyocyaneus	....	B. coli; pyocyaneus	+	..	..	B. coli; pyocyaneus
79	36	♂	Perinephritic abscess	2 yr.	155	0.6	1	B. coli	B. coli	....	+	..	..	B. coli
80	23	♀	Chronic pyelitis, stricture of ureter	3 yr.	100	0.6	11	Staphylococcus aureus	Staphylococcus aureus	B. coli	..	..	+	Negative
81	51	♂	Chronic pyelitis, chronic prostatitis	2 yr.	43	0.6	0	Staphylococcus; B. coli	....	....	..	+	s	B. coli
82	50	♂	Cystitis, prostatitis, papilloma of bladder	Several years	100	0.6	2	Streptococcus; staphylococcus	Negative	Negative	+	..	..	Streptococcus; staphylococcus

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* To designate sex, the symbol ♂ is used for masculine and ♀ for feminine. Symptomatically cured is indicated by s; intolerant to the drug, by I.

unconvincing. Still others were not improved within reasonable periods of time and failed to return.

In all cases the details of treatment as laid down by Leonard were carefully observed. Hexylresorcinol was given in 0.6 Gm. doses in olive oil after meals, three times daily. Patients were directed not to force fluids. Because of its effect on surface tension and consequent lowering of the bactericidal action of the drug, sodium bicarbonate as well as water was blacklisted. With few exceptions, weekly bladder lavages were carried out as suggested. All patients under observation were subjected to complete general as well as genito-urinary examinations. Foci of infection were removed when indicated. Obvious causes for the persistence of urinary infection, as stones, were removed. Ureteral strictures were dilated and perinephric abscesses drained. In short, the drug was given every opportunity to deal with the existing infection. On the other hand, all the usual measures for actively combating upper urinary tract infections were discontinued. As renal pelvic lavage is in itself one of the most efficient means for treating these cases, it was done only when urine specimens were taken to follow up the progress of treatment. In a few cases in which the diagnosis was certain, ureteral catheters were never passed.

The bacteriologic work was carried out in the Central Laboratory of the University Hospital under the direction of Dr. Fowler. In all cases sufficient quantities of culture mediums were used to avoid the possible inhibitory action of the urine. It was an interesting observation that, in mixed infections, cocci often disappeared from the urine first. Frequently the culture reports would be returned negative when organisms were found in the smears of centrifugalized fresh specimens. In these cases we were guided by the smears rather than by the cultures.

CRITERIA OF CURE

Patients were frequently symptomatically cured though organisms were present in the urine. Occasional cultures would be returned negative on patients symptomatically cured. We did not regard these as cured, however, unless smears made from centrifugalized urine specimens were free from bacteria and white blood cells. The presence of bacteria, even though dead, means that there is still an active focus of infection inaccessible to the drug. The importance of this is borne out by the fact that in spite of our caution in declaring cases cured, within one year after discharge relapses had occurred in one-half of our cured cases.

INTERPRETATION OF RESULTS OF TREATMENT

In table 1 are listed the eighty-two cases, together with all the data of importance regarding them. A few cases demand separate consideration to justify their introduction there.

Patient 64, with subacute pyelitis and cirrhosis of the liver, was treated only seven days. He was the only patient in whom the drug was definitely toxic. Almost immediately after a full dose was taken there was marked swelling of the legs and distention of the abdomen. Curiously enough there was no change in the renal function nor were there any casts or albumin in the urine. The discontinuation of the drug was followed by rapid improvement.

Patients 70 and 78 were the only two with well established pyonephrosis that were kept on hexylresorcinol after the diagnosis was definitely established. They were followed only for the sake of completeness. We did not expect favorable results. They showed no improvement whatever. For this reason no effort was made to continue the treatment over a long period of time.

Table 2.—*Results of Treatment in All Cases of Pyelitis*

	Not Improved	Improved	Symptomatically Cured	Cured
Acute and subacute pyelitis...	18%	41%	63%	38%
Chronic pyelitis	32%	42.5%	38%	25.5%
All cases	25%	43%	50%	32%

Patient 73 was of interest in that he had both ureters transplanted into the sigmoid several years ago because of exstrophy of the bladder. This boy had an attack of chills, high fever and costovertebral tenderness. Under treatment with hexylresorcinol he was symptomatically cured in two weeks.

Patient 72, with bladder stone, and patient 82, with a papilloma of the bladder, were treated with hexylresorcinol to determine the effect of the drug on the bladder after the cause of the cystitis was removed.

In all the cases complicated with chronic prostatitis, the prostatic lesion was insignificant.

Among the uncomplicated cases of acute and subacute pyelitis we had a few of the same spectacular results reported by other observers. Some of these were in patients who failed to respond to other types of treatment. Probably the most outstanding effect of the drug, however, is its rapid and frequent complete relief from symptoms. This occurred in 70 per cent of the cases.

Study of the table as a whole suggests the following observations:

1. The average duration of symptoms before treatment was begun in cured cases of pyelitis was nine and one-half months, while in improved cases it was twenty-three months. These observations bear out what would logically have been expected; namely, that the older the infection the less chance for a cure.

2. Approximately 42 per cent of the coccus infections, 19 per cent of the bacillus and only 12 per cent of the mixed group, were cured. As the important lem for the urologist is the cure of the last two gr these results are not very encouraging.

3. Table 2 shows the results of treatment in all of pyelitis. That the acute and subacute cases res far better to treatment than the chronic ones wou anticipated, but the percentage of cures in these groups is lower than we had hoped. This table believe, presents most accurately the true picture of results. These patients were the most thorou studied and most carefully followed of all of t treated.

4. If all the cases in table 1 be considered, our re are: not improved, 32 per cent; improved, 41 per c symptomatically cured, 42 per cent; cured, 27 per c

In searching for the results obtained in the treatn of urinary tract infections by all methods, we find t Braasch and Cathcart [6] have reviewed about 2,000 ca at the Mayo Clinic with this in mind. Their obser tions offer a first class standard for comparison. general they find that about one third of all patie grow progressively worse and go on to death; second third improve and the remaining third get w Our observations in the treatment of urinary tract inf tions with hexylresorcinol correspond closely with the

CONCLUSIONS

1. Hexylresorcinol alone in the treatment of patier with upper urinary tract infections in whom foci infection and all types of urinary tract obstruction ha been removed will cure about one third of them. The will be an additional 20 per cent of symptomatic cure Approximately 43 per cent will be improved and abo 25 per cent will remain unchanged.

2. An important and valuable effect of the drug is it rapid and continued relief of symptoms in all but abo one fourth of the cases of upper urinary tract infection

3. The earlier in the course of the disease that treatment is begun, the greater the chance for cure. Th average duration of symptoms in cured cases is nine an one half months, while that in improved cases is twenty-three months.

4. In mixed infections under treatment, cocci ofte disappear from the urine while colon bacilli remain.

5. Coccus infections respond to treatment with hexylresorcinol far more certainly than bacillus or mixed infections.

6. Combined with other effective methods of treatment of the upper urinary tract infections, is it not unlikely that a considerably higher proportion of cures may be obtained?

Instincts Do Not Change.—Thousands of years ago, races living long before the birth of Christ are believed to have had about the same bodily organs, the same physical capacities, the same instincts, emotions and intellect which their descendants now have. This is not a denial of evolution in man's equipment, but a statement of the fact that evolution is extremely slow. Our native organization, if the biologists are correct, would seem to constitute a more effective adaptation to the primitive life of the savage than to modern customs, habitations and conditions. We would expect to be well fitted to a life of abundant physical activity in the search of foods, berries, nuts, game, or in conflict with animals and other enemies, to the avoidance of such dangers as lightning, animals prowling in the darkness, winds, floods, falling trees or rocks, to rude sorts of implements or houses, to fairly simple social groups, rather than to typewriters and printed books, to refined foods and confined quarters, to indoor vocations and complex social conditions.—Gates: Psychology for Students of Education, pp. 128-129.

EPHEDRINE IN ASTHMA AND HAY-FEVER

VALUE OF EPHEDRINE AS SHOWN BY ITS USE IN ONE HUNDRED AND TEN CASES OF ASTHMA AND TWENTY CASES OF HAY-FEVER

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LOS ANGELES

Whenever a new drug makes its appearance, especially one that theoretically should prove of great usefulness, there is an immediate reaction among clinicians of overenthusiasm in judging its value. Such overenthusiasm has one good effect in that the use of the drug becomes widespread; numerous reports appear on its clinical application, and from these one arrives at a more correct judgment of its value. This report of the use of ephedrine in asthma and hay-fever is offered to aid in such an evaluation.

The work of Chen and Schmidt[1] first suggested the used of ephedrine in asthma and allied conditions. These authors pointed out the similarity of its action to epinephrine and its added advantages over the latter of a more prolonged action and a definite effectiveness on oral administration.

At this point it may be interesting to relate our efforts to obtain the drug for clinical use when Chen and Schmidt's report was first published. After a vain attempt to obtain a supply we turned to possible nearby sources and found that according to Abrams[2] five species of *Ephedra* grow in California. *Ephedra californica* was collected on the desert near Palm Springs, Calif., and worked up according to methods reported by Chen[3] and by Chou.[4] No appreciable amount of any alkaloid was obtained. A quantity of another variety, *Ephedra nevadensis,* from the desert in the vicinity of Palmdale, Calif., was then collected and here again no alkaloid was obtained.[5] Later we obtained and used clinically the preparation of ephedrine sulphate distributed by the Eli Lilly Company. This preparation, according to the report of the Council on Pharmacy and Chemistry of the American Medical Association[6] contains a small amount of the pseudo compound.

We have used this preparation of ephedrine sulphate in 110 cases of asthma. The dosage has been, in adults, usually 50 mg., and in children 25 mg., and always given by mouth. We have found the administration of the drug most effective just before the time of an expected asthmatic attack or during the prodromal period of an attack. When nocturnal attacks were expected a patient was often maintained in complete freedom from asthma by the use of the drug on retiring, or, if suffering from repeated diurnal attacks, by its use every three or four hours during the day. Administration on an empty stomach was more efficacious in that absorption was more rapid and complete.

In attempting to classify our results into three groups, as others have done, namely, complete relief, partial relief and no relief, we were struck by the fact that such a classification was a misleading measure of the effectiveness of the drug. True, 22 per cent of our patients could be classified as having obtained no relief, but we felt that the essential factor was not the patient but the severity of the asthmatic attacks. Carefully reviewing our cases we came to the conclusion that mild attacks may usually be wholly aborted, moderately severe attacks partially relieved, and severe attacks only occasionally relieved. Not infrequently this was demonstrated in the individual patient who obtained relief during a mild attack or in the mild prodromal stages of the severe attack from which he usually suffered, and no relief during a severe paroxysm. Practically all of the 22 per cent of our patients who never obtained relief from ephedrine were suffering from a more or less constant and severe type of bronchial asthma. Let us emphasize, then, that the severity of the attacks and not some inherent quality of the patient is the limiting factor of the effectiveness of ephedrine. Conclusions drawn from a comparative enumeration of patients relieved and not relieved give an erroneous evaluation of its clinical usefulness.

No difference has been noted in the effectiveness of the drug in children and adults.

A striking characteristic of ephedrine that we as well as others have often noted is that each succeeding dose may become less and less effective, analogous to its action as a pressor substance as noted by Chen and Schmidt[1] and Rowntree and Brown.[7] Only a few mild cases do not show this increasing tolerance to the drug.

As Chen,[1] Miller,[8] Rowntree[7] and others have noted, certain untoward effects may follow the use of ephedrine. These are usually mild and consist of tremor, apprehension and palpitation as in 20 per cent of our cases, and in addition insomnia as in 5 per cent. In two cases there was nausea and in one other marked nervous excitement, both from our usual dosage.

Five hay-fever patients were given ephedrine by mouth. Only one experienced relief. On the other hand, twenty hay-fever patients received topical applications of a 3 per cent ephedrine sulphate solution in the nose, and in only two was there no relief. The remainder experienced from twelve to twenty-four hours' relief. The advantage of ephedrine over epinephrine in this particular application was found to be marked in that with ephedrine there is very little irritation, only occasional sneezing and a very prolonged action, confirming the reports of Davis[9] and Gaarde and Maytum.[10]

CONCLUSIONS

1. A study of the results of the action of ephedrine sulphate in 110 cases of asthma shows that it is a drug of considerable value in the symptomatic treatment of this disease but falling far short in its effectiveness as compared with epinephrine.

2. A study of the results of the use of ephedrine sulphate in twenty hay-fever patients shows that it is a drug of considerably greater value than epinephrine as a topical application.

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[8] Miller, T. G.: Ephedrine, Its Use in the Treatment of Vascular Hypotension and Bronchial Asthma, Ann. Clin. Med. **4**: 713 (March) 1926.

[9] Davis, J. W.: Ephedrine in Nasal Disturbances, Arch. Otol. **4**: 240 (Sept.) 1923.

[10] Gaarde, F. W., and Maytum, C. K.: Treatment of Hay-Fever with Ephedrine, Am. J. M. Sc. **172**: 588 (Oct.) 1926.

matically cured. We did not regard these as cured, however, unless smears made from centrifugalized urine specimens were free from bacteria and white blood cells. The presence of bacteria, even though dead, means that there is still an active focus of infection inaccessible to the drug. The importance of this is borne out by the fact that in spite of our caution in declaring cases cured, within one year after discharge relapses had occurred in one-half of our cured cases.

INTERPRETATION OF RESULTS OF TREATMENT

In table 1 are listed the eighty-two cases, together with all the data of importance regarding them. A few cases demand separate consideration to justify their introduction there.

Patient 64, with subacute pyelitis and cirrhosis of the liver, was treated only seven days. He was the only patient in whom the drug was definitely toxic. Almost immediately after a full dose was taken there was marked swelling of the legs and distention of the abdomen. Curiously enough there was no change in the renal function nor were there any casts or albumin in the urine. The discontinuation of the drug was followed by rapid improvement.

Patients 70 and 78 were the only two with well established pyonephrosis that were kept on hexylresorcinol after the diagnosis was definitely established. They were followed only for the sake of completeness. We did not expect favorable results. They showed no improvement whatever. For this reason no effort was made to continue the treatment over a long period of time.

Table 2.—*Results of Treatment in All Cases of Pyelitis*

	Not Improved	Improved	Symptomatically Cured	Cured
Acute and subacute pyelitis...	18%	44%	63%	38%
Chronic pyelitis	32%	42.5%	38%	25.5%
All cases	25%	43%	50%	32%

Patient 73 was of interest in that he had both ureters transplanted into the sigmoid several years ago because of exstrophy of the bladder. This boy had an attack of chills, high fever and costovertebral tenderness. Under treatment with hexylresorcinol he was symptomatically cured in two weeks.

Patient 72, with bladder stone, and patient 82, with a papilloma of the bladder, were treated with hexylresorcinol to determine the effect of the drug on the bladder after the cause of the cystitis was removed.

In all the cases complicated with chronic prostatitis, the prostatic lesion was insignificant.

Among the uncomplicated cases of acute and subacute pyelitis we had a few of the same spectacular results reported by other observers. Some of these were in patients who failed to respond to other types of treatment. Probably the most outstanding effect of the drug, however, is its rapid and frequent complete relief from symptoms. This occurred in 70 per cent of the cases.

Study of the table as a whole suggests the following observations:

1. The average duration of symptoms before treatment was begun in cured cases of pyelitis was nine and one-half months, while in improved cases it was twenty-three months. These observations bear out what would logically have been expected; namely, that the older the infection the less chance for a cure.

2. Approximately 42 per cent of the coccus infections, 19 per cent of the bacillus and only 12 per cent of the mixed group, were cured. As the important problem for the urologist is the cure of the last two groups, these results are not very encouraging.

3. Table 2 shows the results of treatment in all cases of pyelitis. That the acute and subacute cases respond far better to treatment than the chronic ones would be anticipated, but the percentage of cures in these two groups is lower than we had hoped. This table, we believe, presents most accurately the true picture of our results. These patients were the most thoroughly studied and most carefully followed of all of those treated.

4. If all the cases in table 1 be considered, our results are: not improved, 32 per cent; improved, 41 per cent; symptomatically cured, 42 per cent; cured, 27 per cent.

In searching for the results obtained in the treatment of urinary tract infections by all methods, we find that Braasch and Cathcart[6] have reviewed about 2,000 cases at the Mayo Clinic with this in mind. Their observations offer a first class standard for comparison. In general they find that about one third of all patients grow progressively worse and go on to death; the second third improve and the remaining third get well. Our observations in the treatment of urinary tract infections with hexylresorcinol correspond closely with these.

CONCLUSIONS

1. Hexylresorcinol alone in the treatment of patients with upper urinary tract infections in whom foci of infection and all types of urinary tract obstruction have been removed will cure about one third of them. There will be an additional 20 per cent of symptomatic cures. Approximately 43 per cent will be improved and about 25 per cent will remain unchanged.

2. An important and valuable effect of the drug is its rapid and continued relief of symptoms in all but about one fourth of the cases of upper urinary tract infections.

3. The earlier in the course of the disease that treatment is begun, the greater the chance for cure. The average duration of symptoms in cured cases is nine and one half months, while that in improved cases is twenty-three months.

4. In mixed infections under treatment, cocci often disappear from the urine while colon bacilli remain.

5. Coccus infections respond to treatment with hexylresorcinol far more certainly than bacillus or mixed infections.

6. Combined with other effective methods of treatment of the upper urinary tract infections, is it not unlikely that a considerably higher proportion of cures may be obtained?

Instincts Do Not Change.—Thousands of years ago, races living long before the birth of Christ are believed to have had about the same bodily organs, the same physical capacities, the same instincts, emotions and intellect which their descendants now have. This is not a denial of evolution in man's equipment, but a statement of the fact that evolution is extremely slow. Our native organization, if the biologists are correct, would seem to constitute a more effective adaptation to the primitive life of the savage than to modern customs, habitations and conditions. We would expect to be well fitted to a life of abundant physical activity in the search of foods, berries, nuts, game, or in conflict with animals and other enemies, to the avoidance of such dangers as lightning, animals prowling in the darkness, winds, floods, falling trees or rocks, to rude sorts of implements or houses, to fairly simple social groups, rather than to typewriters and printed books, to refined foods and confined quarters, to indoor vocations and complex social conditions.—Gates: Psychology for Students of Education, pp. 128-129.

EPHEDRINE IN ASTHMA AND HAY-FEVER

VALUE OF EPHEDRINE AS SHOWN BY ITS USE IN ONE HUNDRED AND TEN CASES OF ASTHMA AND TWENTY CASES OF HAY-FEVER

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Whenever a new drug makes its appearance, especially one that theoretically should prove of great usefulness, there is an immediate reaction among clinicians of overenthusiasm in judging its value. Such overenthusiasm has one good effect in that the use of the drug becomes widespread; numerous reports appear on its clinical application, and from these one arrives at a more correct judgment of its value. This report of the use of ephedrine in asthma and hay-fever is offered to aid in such an evaluation.

The work of Chen and Schmidt[1] first suggested the used of ephedrine in asthma and allied conditions. These authors pointed out the similarity of its action to epinephrine and its added advantages over the latter of a more prolonged action and a definite effectiveness on oral administration.

At this point it may be interesting to relate our efforts to obtain the drug for clinical use when Chen and Schmidt's report was first published. After a vain attempt to obtain a supply we turned to possible nearby sources and found that according to Abrams[2] five species of *Ephedra* grow in California. *Ephedra californica* was collected on the desert near Palm Springs, Calif., and worked up according to methods reported by Chen[3] and by Chou.[4] No appreciable amount of any alkaloid was obtained. A quantity of another variety, *Ephedra nevadensis,* from the desert in the vicinity of Palmdale, Calif., was then collected and here again no alkaloid was obtained.[5] Later we obtained and used clinically the preparation of ephedrine sulphate distributed by the Eli Lilly Company. This preparation, according to the report of the Council on Pharmacy and Chemistry of the American Medical Association[6] contains a small amount of the pseudo compound.

We have used this preparation of ephedrine sulphate in 110 cases of asthma. The dosage has been, in adults, usually 50 mg., and in children 25 mg., and always given by mouth. We have found the administration of the drug most effective just before the time of an expected asthmatic attack or during the prodromal period of an attack. When nocturnal attacks were expected a patient was often maintained in complete freedom from asthma by the use of the drug on retiring, or, if suffering from repeated diurnal attacks, by its use every three or four hours during the day. Administration on an empty stomach was more efficacious in that absorption was more rapid and complete.

In attempting to classify our results into three groups, as others have done, namely, complete relief, partial relief and no relief, we were struck by the fact that such a classification was a misleading measure of the effectiveness of the drug. True, 22 per cent of our patients could be classified as having obtained no relief, but we felt that the essential factor was not the patient but the severity of the asthmatic attacks. Carefully reviewing our cases we came to the conclusion that mild attacks may usually be wholly aborted, moderately severe attacks partially relieved, and severe attacks only occasionally relieved. Not infrequently this was demonstrated in the individual patient who obtained relief during a mild attack or in the mild prodromal stages of the severe attack from which he usually suffered, and no relief during a severe paroxysm. Practically all of the 22 per cent of our patients who never obtained relief from ephedrine were suffering from a more or less constant and severe type of bronchial asthma. Let us emphasize, then, that the severity of the attacks and not some inherent quality of the patient is the limiting factor of the effectiveness of ephedrine. Conclusions drawn from a comparative enumeration of patients relieved and not relieved give an erroneous evaluation of its clinical usefulness.

No difference has been noted in the effectiveness of the drug in children and adults.

A striking characteristic of ephedrine that we as well as others have often noted is that each succeeding dose may become less and less effective, analogous to its action as a pressor substance as noted by Chen and Schmidt[1] and Rowntree and Brown.[7] Only a few mild cases do not show this increasing tolerance to the drug.

As Chen,[1] Miller,[8] Rowntree[7] and others have noted, certain untoward effects may follow the use of ephedrine. These are usually mild and consist of tremor, apprehension and palpitation as in 20 per cent of our cases, and in addition insomnia as in 5 per cent. In two cases there was nausea and in one other marked nervous excitement, both from our usual dosage.

Five hay-fever patients were given ephedrine by mouth. Only one experienced relief. On the other hand, twenty hay-fever patients received topical applications of a 3 per cent ephedrine sulphate solution in the nose, and in only two was there no relief. The remainder experienced from twelve to twenty-four hours' relief. The advantage of ephedrine over epinephrine in this particular application was found to be marked in that with ephedrine there is very little irritation, only occasional sneezing and a very prolonged action, confirming the reports of Davis[9] and Gaarde and Maytum.[10]

CONCLUSIONS

1. A study of the results of the action of ephedrine sulphate in 110 cases of asthma shows that it is a drug of considerable value in the symptomatic treatment of this disease but falling far short in its effectiveness as compared with epinephrine.

2. A study of the results of the use of ephedrine sulphate in twenty hay-fever patients shows that it is a drug of considerably greater value than epinephrine as a topical application.

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[1] Chen, K. K., and Schmidt, C. F.: The Action of Ephedrine, the Active Principle of the Chinese Drug Ma Huang, J. Pharmacol. & Exper. Therap. **24**: 339 (Dec.) 1924.

[2] Abrams, L.: Illustrated Flora of the Pacific States, Stanford University Press, Calif., **1**: 77-78.

[3] Chen, K. K.: A Pharmacognostic and Chemical Study of Ma Huang, J. Am. Pharm. A. **14**: 189 (March) 1925.

[4] Chou, T. Q.: The Preparation and Properties of Ephedrine and Its Salts, J. Biol. Chem. **70**: 109 (Sept.) 1926.

[5] The determinations were made by Gordon F. Alles, Ph.D., of our laboratory. Since writing the above we note that similar lack of the active alkaloid in the Ephedra nevadensis was demonstrated by Floyd De Eds and Edward M. Butt as related in their article on "Further Evidences of the Non-Sympathomimetic Action of Ephedrine," Proceedings of the Society for Experimental Biology and Medicine, 24, 800, 1927.

[6] Ephedrine: Report of the Council on Pharmacy and Chemistry, J. A. M. A. **88**: 482 (Feb. 12) 1927.

[7] Rowntree, L. G., and Brown, G. E.: Ephedrine Therapy in Addison's Disease, Endocrinology **10**: 301 (May-June) 1926.

[8] Miller, T. G.: Ephedrine, Its Use in the Treatment of Vascular Hypotension and Bronchial Asthma, Ann. Clin. Med. **4**: 713 (March) 1926.

[9] Davis, J. W.: Ephedrine in Nasal Disturbances, Arch. Otol. **4**: 240 (Sept.) 1923.

[10] Gaarde, F. W., and Maytum, C. K.: Treatment of Hay-Fever with Ephedrine, Am. J. M. Sc. **172**: 588 (Oct.) 1926.

PERIARTERIAL SYMPATHECTOMY IN EPILEPSY *

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It has come to be considered axiomatic that a multiplicity of therapeutic methods in the treatment of a given disease connotes a paucity of cures attributable to any one method. Of no condition is this statement truer than of epilepsy.

Sir William Gowers [1] casually mentions helminthiasis and ovarian and uterine abnormalities in a consideration of the etiology of epilepsy. In the same article he states that "it would be a waste of time to describe the various operations that have been advocated for epilepsy, whether on arteries or on the sympathetic nerves, which have their day and cease to be, not much to the credit of the profession."

Block [2] quotes A. E. Russell as stating that "the fundamental factor underlying the epileptic fit is cerebral anemia." Russell in turn quotes Fox as "attributing the loss of consciousness and tonic spasm to cerebral vasoconstriction and the clonic convulsion to gradual yielding of the vasomotor constriction, allowing some blood to reach the brain, but not enough for complete cerebral control." Block adds, however, that "Turner calls attention to the fact that paralysis of the vasoconstrictor nerves from removal of the superior sympathetic ganglion does not cure epilepsy."

An enumeration of the drugs supposed at some time or other to be of use in epilepsy would be not much unlike a composite of the pharmacopeias of all time. Nor has the line of approach been exclusively medical. Surgeons have from time to time advised one or another form of operation intended to relieve victims of this disease.

Practically all the surgical procedures thus far advocated fall logically into one of the following four groups:

1. Operations on the brain or skull. Trephining, by way of example, was at one time considered the panacea for grand mal. No less an authority than Sir William Gowers, while condemning all other surgical attempts at cure, recommended trephining, admitting, nevertheless, that he could not on an *a priori* basis explain its successes.

2. Operations based on the theory that epilepsy is due to peripheral irritation. In this category, among others, may be placed hysterectomy, clitoridectomy, oophorectomy, cholecystectomy, nasal and aural polypectomy, tonsillectomy, appendectomy and the extraction of carious and impacted teeth.

3. Operations based on the theory that epilepsy is due to intestinal autointoxication. Prominent among these have been appendicostomy, colon resection, short-circuiting and the so-called Lane kink operation.

4. Operations based on the theory that there is a craniocirculatory vasomotor imbalance. These are the most modern and include periarterial sympathectomy, ganglionectomy and suprarenalectomy.[3]

Some of the more recent attempts in this direction by Tinel [4] and Wagner,[5] each of whom reported only a single case, and by Bojovitch,[6] who reported seven cases, were encouraging enough to stimulate us to investigate both the method and the results of periarterial sympathectomy in the treatment of epilepsy. Our approach was both experimental and clinical.

Experimentally, we sought to determine in dogs whether carotid periarterial sympathectomy is safe, as to both its immediate and its more remote effects, and whether there is demonstrable evidence of vasodilatation of the cerebral vasculature following this procedure.

Clinically, we sought to determine whether there is any diminution in the frequency and the severity of the seizures, or any other improvement in the patients' condition.

METHOD

Experimental.—A series of dogs on which a carotid periarterial sympathectomy was done were injected intravenously with 10 cc. of a 0.3 per cent aqueous solution of methylene blue (per kilogram of body weight), following a modification of the Herter and Richards [7] technic on rabbits. Twenty minutes after injection the animals were killed, and their brains removed and preserved in formaldehyde. Another series of control dogs, unsympathectomized, were likewise injected with methylene blue and killed in the same period of time. Sections were made of both series for microscopic study.

Clinical.—A series of nine patients were operated on. The method of approach was similar to that employed for cervical ganglionectomy. In nearly all the cases, on the right side of the neck we were able to reach the internal carotid artery and isolate it sufficiently to do a circumferential denudation by the usual Leriche [8] technic. Only about 1 or 2 cm. of the artery was denuded. In the majority of the cases, the left internal carotid artery could not be reached with sufficient ease, and denudation of the common carotid was performed. The common carotid could be isolated quite easily and denudation was usually done for a distance of 3 or 4 cm.

A few mishaps were encountered during these operations, such as perforation of Sibson's fascia with audible aspiration of air into the pleural cavity. The amount of air aspirated, however, was very small as suture of the fascia was done promptly, and a pneumothorax was not demonstrable in the roentgenograms taken soon after this accident. Also, the artery was nicked on two occasions, necessitating lateral suture. However, the convalescence was uneventful in all the cases.

RESULTS

Experimental.—There was no evidence of an increase in the caliber of the cerebral vasculature of either the macroscopic or the microscopic vessels, as a result of sympathectomy. The methylene blue stained the brains of the sympathectomized and the control animals equally intensely. Furthermore, in sections counterstained with eosin no variation in the intensity of penetration of nerve tissue by the methylene blue, in the sympathectomized animals as compared with the controls, was demonstrable.

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* From the surgical service of Dr. William Seaman Bainbridge.

[1] Gowers, William, in Albutt and Rolleston's System of Medicine.

[2] Block, E. B., in Tice's Practice of Medicine.

[3] Brüning, A.: Deutsche med. Wchnschr. **46:** 1351 (Dec. 2) 1920. Piper, H.: Zentralbl. f. Chir. **12:** 407 (March 26) 1921.

[4] Tinel, J.: Rev. neurol. **32:** 163 (Nov.) 1925.

[5] Wagner, A.: Zentralbl. f. Chir. **52:** 637 (March 21) 1925.

[6] Bojovitch, V.: Rev. de chir. **63:** 608, 1925.

[7] Herter and Richards: Am. J. Physiol., October, 1904.

[8] Leriche, R.: Ann. Surg. **74:** 385 (Oct.) 1921.

In concurrence with other observers, we noted definite diminution in the caliber of the carotid artery during the denudation, and were able at reoperation from eight to twelve days later, to demonstrate in some of the animals a variable degree of carotid dilatation.

Barring anesthesia deaths the procedure in our hands, in these animals, proved safe, though difficult technically.

Clinical.—The accompanying table fully expresses the clinical results of this operation in our hands. The duration of the disease in these cases ranged from ten to thirty-five years, and had existed from early childhood in most of them.

Results of Periarterial Sympathectomy

			Before Operation			After Operation		
Name	Age	Sex*	No. of Months	No. of Seizures	Type of Seizures	No. of Months	No. of Seizures	Type of Seizures
W. M...	23	♂	4	18	Major	7	2	Minor
J. F.....	38	♂	4	43	Major	5	2	Minor
C. M....	26	♂	3	30	Major	6	79	Major
M. D....	44	♀	4	32	Major	5	21	Major
L. R....	30	♀	5	26	Major	3	22	Major
J. M....	29	♀	5	27	Major	3	24	Major
B. O....	16	♀	4	19	Major	4	23	Minor
M. R....	15	♀	4	12	Major	5	0	
A. J.....	16	♂	2	68	Major	2	90	Major

* In this column, ♂ indicates male; ♀, female.

A review of this table indicates that in three cases there were almost complete remissions. While we do not assert that these remissions were a result of the operation, yet it seems significant that in one case in which there were forty-three major seizures during four months prior to operation there were only two minor seizures during five months following; in another case there were eighteen major seizures during four months prior to operation and two minor seizures during seven months following; in still another case, with twelve major seizures during four months prior to operation, there were no seizures during five months following. In one case there was a transition from major to minor seizures.

In the remaining five cases, three patients were unimproved and two had more seizures after operation than before.

COMMENT

As stated, no demonstrable vasodilatation occurred in the cerebral vessels of animals previously subjected to pericarotid sympathectomy.

It is still a question whether or not the cerebral vessels are supplied with vasoconstrictor fibers. Ranson, in a personal communication to one of us (H.), states that, although these vessels are abundantly supplied with sympathetic fibers, "there is no good physiological evidence of vasoconstrictor fibers for the cranial vessels" but, he adds, "in spite of the negative physiologic evidence it seems probable to me that at least some of these [sympathetic] fibers have a vasoconstrictor function."

Although no definite conclusion regarding the presence or absence of vasoconstrictor fibers can be drawn from our experimental work, the results seem to point to their absence rather than their presence.

From the clinical point of view we are on safer ground. Our series is comparatively large and has been carefully followed over a period of several months, and we feel that our results carry at least as much weight as any series heretofore reported.

It is quite possible that there are epileptic persons, as Forster[9] suggests, who may benefit by pericarotid sympathectomy. He points out that only in cases in which there is definite evidence of sympathetic imbalance associated with the epilepsy, such as tachycardia, mydriasis and thyroid or ovarian dysfunction, does surgery offer any hope of cure. Our clinical work gives us opportunity neither to affirm nor to deny this statement.

Finally, one more point demands discussion. The possibility must be weighed whether or not the successes of Tinel, Wagner and Bojovitch are explainable on the basis of the statement of Block who, commenting on the successes reported following superior cervical ganglionectomy, remarks, "It is probable that the anesthetic had more to do with the improvement than did the operation."

CONCLUSIONS

1. We are unable to demonstrate dilatation of cerebral vessels following pericarotid sympathectomy.
2. No evidence is adduced to contradict Forster's opinion that it is of value in cases presenting symptoms of sympathetic imbalance.
3. Without ruling out the possibility of more remote effects, we find, after observations extending over a period of seven months, that pericarotid sympathectomy does not have deleterious effects on the experimental animal or on human beings. However, the operation itself is not free from danger both from technical and for anatomic reasons.
4. Further observation of the four apparently benefited patients is indicated to determine whether the improvement is transitory or permanent.
5. Finally, while we do not consider pericarotid sympathectomy an entirely unpromising procedure in the treatment of epilepsy, we cannot advocate its indiscriminate use.

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[9] Forster, E.: München med. Wchnschr. 70: 1114 (Aug. 31) 1923.

DIURESIS VERSUS ANTISEPSIS IN THE TREATMENT OF URINARY INFECTIONS

WITH A NOTE ON DRUG ROTATION *

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The ingestion of large quantities of water together with various salts, such as sodium bicarbonate or the citrates, had become a standard procedure in the treatment of urinary infections long before the advent of internal urinary antiseptics. Opinion is probably unanimous today that in the acute urinary infections, most of which are self limited, this treatment shortens the course of the disease, and that in the chronic urinary infections it is distinctly palliative.

Since all the organisms commonly invading the urinary tract grow readily in urine of any hydrogen ion concentration which it is possible to attain by the administration of any drug, it would appear that alkalization of the urine is probably of little significance per se. The salts employed for this purpose, however, all possess diuretic action, and it seems probable that their value depends chiefly on this property. In other words, the treatment of urinary infection by "forcing fluids" and "alkalization" is essentially treatment by diuresis.

The demonstration of formaldehyde as a decomposition product of methenamine in acid urine by Nicolaier,[1] in 1895, offered a new opportunity in the treatment of urinary infections: antisepsis by internal medication. During the next fifteen years this drug came into almost universal use, the usual procedure being to administer 5 or 10 grains (0.32 or 0.63 Gm.) three or four times daily, together with large quantities of water.

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* From the Department of Bacteriology of the School of Hygiene and Public Health, Johns Hopkins University.

[1] Nicolaier: Deutsche med. Wchnschr. 21: 541, 1895.

No detailed experimental investigation of its activity as a urinary antiseptic seems to have been made until 1912, when Burnam[2] showed that on the customary doses of methenamine not more than one patient out of five would show any formaldehyde in the urine, and that only 60 per cent would show it on massive doses, such as from 20 to 30 grains (1.3 to 2 Gm.) every four hours.

The following year Hinman undertook a thorough study of the factors influencing the excretion of methenamine and its conversion to formaldehyde in acid urine. Quantitative estimations of the formaldehyde content of the urine of patients receiving 15 grains (1 Gm.) of methenamine three times a day were made by a modification of the Rimini method.[4]

Of the 318 specimens of bladder urine examined by Hinman, 64 per cent were found to contain so little formaldehyde (less than 1: 30,000) as to be devoid of antiseptic value. Of the remainder, only 17 per cent showed formaldehyde in concentrations sufficient for complete bacteriostasis, and only 5 per cent were germicidal.

Of twenty-three specimens of urine obtained directly from the kidney pelvis by renal catheter, eighteen did not show any formaldehyde whatever, while the remaining five showed mere traces (1: 60,000) and were devoid of antiseptic value.

Hinman concluded that methenamine is of no value at the kidney level, because the urine does not remain in the renal pelvis a sufficient length of time to permit the conversion of the drug into formaldehyde, and that the same conditions obtain in the bladder if urination is frequent. He concluded further that restriction of fluids is necessary for the reason that polyuria not only reduces the concentration of formaldehyde, on which the efficacy of the treatment depends, but also inhibits its formation by reducing the acidity of the urine even to the point of completely offsetting the advantages of large doses.

Hinman's work, which has never received the recognition its importance deserves, has since been confirmed both in this country and abroad by Walker,[5] Hoest,[6] Culver,[7] Camino,[8] Nicolaysen,[9] Sutton,[10] Albano[11] and others. These investigators conclude that methenamine is of little or no value at the kidney level under any circumstances and can be effective in the bladder only if diuresis is avoided and the bladder emptied only at intervals of from four to six hours. Only with these precautions may concentrations of formaldehyde sufficient to exert any antiseptic action be demonstrated in the urine. Owing to the time element essential for the conversion of methenamine in the bladder, Sutton points out that the drug is also valueless in patients fitted with retention catheters and in urinary fistulas.

While it appears to be of considerable importance to avoid diuresis during treatment with any urinary antiseptic, it is absolutely essential that the ingestion of large quantities of fluids and of diuretic drugs be avoided during treatment with hexylresorcinol. In this instance one is dealing with a compound which is most active, in the concentrations appearing in the urine, at the lower ranges of surface tension. The drug itself is a powerful reducent of surface tension, and in therapeutic doses will depress the surface tension of the urine to those levels at which it is highly active. Not only does dilution of the urine through the ingestion of large quantities of water, or of diuretic drugs, result in lowering the concentration of hexylresorcinol in the urine, but concentrations of the germicide which would otherwise be highly bactericidal are inactivated by the rise in the surface tension of the urine which accompanies dilution.[12] Hexylresorcinol is equally active in acid or alkaline urine; yet the diuretic properties of therapeutic doses of sodium bicarbonate may be sufficient to inactivate the drug in the urine through the dilution and consequent rise in surface tension which results. That this is not due to the alkalinity of the urine or to any direct action of the sodium bicarbonate is proved by the fact that sodium bicarbonate added in large amounts to a specimen of urine containing hexylresorcinol neither raises the surface tension of the fluid nor inactivates the drug.

In spite of these observations on the importance of concentration, the custom of employing various urinary antiseptics in conjunction with large quantities of water persists. It should be emphasized that in certain instances the benefits to be derived from the administration of large quantities of fluids may be of far more importance than disinfection of the urinary tract. Under these circumstances the urinary antiseptic might just as well be discontinued until such time as the necessity for "forcing water" no longer exists. In other words, urinary infections may be treated by diuresis or they may be treated with internal urinary antiseptics. All the experimental evidence available indicates decisively that these two methods of treatment should never be combined.

While the activity of methenamine, feeble at best, is reduced by diuresis, in the case of hexylresorcinol the effect is even more striking. Normal men receiving therapeutic doses of hexylresorcinol together with a moderate quantity of water (1,200 cc. daily) secrete an almost continuous flow of bactericidal urine. If the quantity of water is doubled, bactericidal urine appears only intermittently, and if excessive amounts of fluids are taken, bactericidal specimens are rarely obtained.

It is obvious that clinical results with hexylresorcinol could hardly be satisfactory unless diuresis is carefully avoided. In this connection it is interesting to compare the clinical results of hexylresorcinol treatment reported by Henline,[13] who avoided diuresis during treatment, with those of Helmholz,[14] who did not. In a series of fifty cases of chronic urinary infections of durations varying from six months to fourteen years, and which had resisted other treatment for periods varying from one to forty months, Henline obtained complete disinfection of the urinary tract with hexylresorcinol in all but three cases (92 per cent). In a series of fourteen cases of chronic urinary infections of durations varying from six weeks to fourteen years, Helmholz observed complete disinfection of the urinary tract with hexylresorcinol in only one case. While the course of treatment given by Helmholz was, on the average, considerably shorter than that employed by Henline, the striking difference in the results of these two observers is obviously attributable to the factor of diuresis. The active diuresis customarily employed in conjunction with urinary antiseptics in the clinic from which Helmholz' cases were reported even raises the question whether hexylresorcinol was in fact responsible for the single successful result observed.

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[2] Burnam, C. F.: An Experimental Investigation of the Value of Hexamethylenamine and Allied Compounds, Arch. Int. Med. **10:** 324 (Oct.) 1912.

[3] Hinman, Frank: An Experimental Study of the Antiseptic Value in the Urine of the Internal Use of Hexamethylenamine, J. A. M. A. **61:** 1601 (Nov. 1) 1913.

[4] Rimini: Chem. Zentralbl. **1:** 1152, 1898.

[5] Walker: Edinburgh M. J. **12:** 503, 1914.

[6] Hoest: Ztschr. f. klin. Med. **81:** 272, 1915.

[7] Culver: Urol. & Cutan. Rev. **25:** 149, 1921.

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[14] Helmholz, H. F.: Therapeutic Value of Hexylresorcinol in Chronic Pyelitis of Childhood, Am. J. Dis. Child. **32:** 396 (Sept.) 1926.

The most interesting feature of Helmholz' report is the astonishing rapidity with which six out of nine uncomplicated cases, which had been treated with hexylresorcinol for periods varying from ten to forty-nine days, cleared up with methenamine, presumably in conjunction with active diuresis. These six cases of chronic pyelitis of durations varying from one to ten years cleared up completely after the treatment was changed to methenamine in periods varying from three days to three weeks. Helmholz attributes this result solely to the action of methenamine and infers that, in his experience, it is not unusual, since a similar series of cases in which preliminary treatment with hexylresorcinol had not been given cleared up quite as readily. No details of these control cases are given. The dosage employed in the six successful cases is not given, and no mention is made as to whether or not in any of these cases the patients had received ineffectual courses of methenamine before coming under his observation. Since it is common clinical experience that a large percentage of cases of chronic pyelitis of years' duration do not ordinarily clear up with such amazing rapidity, and since those who have investigated the factors influencing the therapeutic activity of methenamine insist that it is of little or no value at the kidney level, it appears to be necessary to seek a more satisfactory explanation of these results. A very simple and logical explanation based on experiments recently completed in this laboratory is already on record in the literature.[15] The following case was one which suggested the investigation:

> A woman, aged 26, after a very severe forceps delivery, developed bilateral pyelitis which failed to clear up after a course of methenamine and two treatments of mercurochrome-220 soluble intravenously. After sixty days on hexylresorcinol in doses up to 0.45 Gm. thrice daily, the urine was still loaded with pus and showed a pure culture of *B. coli*. Hexylresorcinol was discontinued, and 40 grains (2.6 Gm.) of methenamine substituted. Within forty-eight hours the urine was entirely clear.[9]

In the experiments undertaken, three strains of *B. coli* were grown in the presence of minute concentrations of hexylresorcinol for several weeks, and the resistance of each of these strains to the bactericidal action of formaldehyde was compared before and after this treatment. In each instance a large increase in the sensitiveness of these strains to formaldehyde occurred. The reverse experiment, in which the original strains were grown in substerilizing concentrations of formaldehyde, gave negative results since their sensitiveness to hexylresorcinol was not increased by this treatment. Based on these experiments and others of a similar nature, together with the clinical observation recorded above, the suggestion was made that in chronic urinary infections which had resisted treatment with hexylresorcinol the offending organism might have developed a greatly increased sensitiveness to the action of formaldehyde and that large doses of methenamine should be substituted. Previous failure with methenamine bears no relationship to the drug rotation suggested under these circumstances.

Helmholz' observations appear to offer striking clinical corroboration of the deductions drawn from these experiments.

817 Park Avenue.

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[15] Feirer, W. A; Meader, P. D., and Leonard, Veader: J. Urol. **16**: 97 (Aug.) 1926.

THE CONTROL OF HYPERTHYROIDISM BY THYROIDECTOMY

RESULTS IN ONE HUNDRED CASES *

CHARLES A. ELLIOTT, M D.
CHICAGO

Diversity of opinion exists as to the value of thyroidectomy for the control of severe hyperthyroidism. There is confusion as to the risk encountered, the objective to be attained, and the final results that may be expected. In my experience bed rest, drugs and radiotherapy have proved inadequate and uncertain as compared with thyroidectomy, particularly since the more extensive removal of the gland has become customary. The almost uniformly beneficial results obtained by means of the resection of all but a small portion of the thyroid tissue are in marked contrast to the indifferent or poor results formerly observed with other measures, including less radical surgical attack. It is a matter of surprise, therefore, to find that other experienced clinicians fail to get similar satisfactory results from surgery and question the permanence of control. One does not contemplate the removal of such a large portion of so important an organ as the thyroid gland without concern as to the final effect on the health of these patients. To satisfy ourselves concerning such questions as have been raised we decided to recall for careful examination 100 patients on whom thyroidectomies had been performed six months or more previously.

The type of operation performed in the Wesley Memorial Hospital[1] is radical, a so-called maximal subtotal thyroidectomy. Ligations and the less radical removal of portions of the thyroid have been discarded. The evolution of this type of operation has been gradual. As years went on the surgeons, supported by the internists, dared to remove more and more of the substance of the gland. They were encouraged by the clinical observations that postoperative toxic reactions were less frequent and that control of hyperthyroidism was more certain with the more extensive removal of the gland. Approximately 2 to 3 Gm. of thyroid tissue near the lower poles, together with varying portions of the posterior capsule, are now retained for regeneration and for the protection of the inferior parathyroids. When this objective was attained after preliminary iodine medication, complete and apparently permanent clinical control of hyperthyroidism occurred in practically all our cases. Recurrences indicate that a maximal subtotal removal has not actually been accomplished.

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* From the Northwestern University Medical School.

* A preliminary report of this study was presented before the Association of American Physicians, May 5, 1926 (Tr A. Am Phys. **41**: 93, 1926).

[1] In the cases reported, operations were performed by Drs. Allen B. Kanavel, Harry M. Richter and Sumner L. Koch

This study, begun in the fall of 1925, has continued to the present time. Only such patients with hyperthyroidism as apply to a general hospital for treatment, mostly severely toxic cases, are included. It was not possible to recall patients who had been operated on consecutively. The group examined contained many of the more severe cases and those concerning which most difficulty was experienced. All patients had been operated on from six months to six years prior to the examination. Sixty-seven had been operated on from one-half to two years, and thirty-three from two to six years, previously. Both the exophthalmic and adenomatous types of hyperthyroidism are included. A distinction between these types is of clinical value, but a fundamental difference was not assumed. Sixty-two cases were of the exophthalmic type, thirty-two were adenomatous and six were of doubtful clinical classification. Forty-nine patients were operated on from 1919 to 1924, inclusive, thirty-five in 1925 and sixteen in 1926. Eighty-three had been treated previously, forty-four with iodine, twenty with radiation and nineteen by operation. Fifty-nine had had hyperthyroidism for one year or less, and forty-one for from one to thirteen years.

EFFECT OF IODINE AND BED REST

All of the 100 patients were kept in bed for varying periods prior to operation. Thirty-one early cases did not receive preliminary iodine medication. Sixty-nine received iodine as a preoperative measure; in fifty-five the records are complete and permit accurate conclusions (table 1). Of the latter, fifty showed a definite reduction in intoxication, four a slight improvement and one no change; no case was apparently made worse by the use of this drug. The general clinical improvement seemed to parallel the drop in basal metabolic rate, and no essential difference was noted in the response of the exophthalmic and the adenomatous types. Twelve cases, clinically of the adenomatous type, with the diagnosis confirmed by histologic sections, showed a drop in basal metabolic rate. In ten it dropped more than 25 per cent; in six of these there was a decrease of more than 50 per cent (table 2).

Table 1—*Effect of Iodine and Bed Rest on Basal Metabolic Rate*

Fifty five cases of hyperthyroidism (all types) in which a sufficient number of determinations has been made to warrant conclusions		
No change in basal metabolic rate		1 case
Decrease in basal metabolic rate		54 cases
1 to 25% decrease	4 cases	
26 to 50% decrease	22 cases	
51 to 75% decrease	18 cases	
75 to 100% decrease	10 cases	

Table 2—*Effect of Iodine and Bed Rest on Toxic Adenomatous Goiter*

Twelve cases in which diagnosis was confirmed histologically; sections did not show hyperplasia	
1 to 25% decrease in basal metabolic rate	2 cases
26 to 50% decrease in basal metabolic rate	4 cases
51 to 75% decrease in basal metabolic rate	5 cases
76 to 100% decrease in basal metabolic rate	1 case

ANALYSIS OF OBSERVATIONS AT EXAMINATION

All of the 100 patients were able to resume their former occupations and seventy considered themselves perfectly well; in all save nine the metabolic rate was considered within normal limits. Fifty-two patients, however, showed evidence of definite visceral injury on critical physical examination, forty-one as the result of hyperthyroidism, five as a direct result of operative intervention and six interpreted as due to other pathologic conditions (tables 3 and 4). It is significant that in only forty-eight patients was it impossible to demonstrate residual injury. This would indicate that hyperthyroidism which persists for any length of time produces permanent tissue injury in a large proportion of the cases. Four patients were considered to have a persisting but not disabling hyperthyroidism of some degree at the time of examination. Five patients had metabolic rates definitely below normal but on thyroid extract did not show symptoms of hypothyroidism. Most of the patients gained weight following the operation but in only one instance was obesity considered as a disability. In twenty-eight patients who did not show signs of residual pathologic changes, and who had been in good health for several years following thyroidectomy, metabolic rates were not obtained after the operation. Of the seventy-two cases in which postoperative metabolic rates were taken, fifty were within normal range; thirteen were +10 per cent or above (nine considered clinically normal); nine were —10 per cent or lower (four considered clinically normal).

Table 3.—*Present Status of One Hundred Hyperthyroid Patients from Six Months to Six Years After Thyroidectory as Determined by Critical Physical Examination*

		Patients
Thyroid Status		
Normal		87
Basal metabolic rate above +10% (4 considered hyperthyroid)		5
Basal metabolic rate below —10% (5 taking thyroid extract)		8
Weight (records complete in 91 cases)		
Gain (average 26.8 pounds)		86
Loss (average 10.4 pounds)		5
Significant Visceral Injury		
None demonstrated		48
Present		52
Result of hyperthyroidism	41	
Result of operative intervention	8	
Other damage, probably unrelated	6	

Table 4.—*Distribution of Injury Found in Fifty-Two Patients*

Interpreted as due to hyperthyroidism:	
Cardiovascular	40
Nervous-mental	14
Weakness	5
Persistent hyperthyroidism (1 significant)	5
Result of operative intervention:	
Vocal cord paralysis	2
Tetany	1
Hypothyroid	5
Other pathologic conditions discovered:	
Focal infection	3
Diabetes	1
Pulmonary tuberculosis	1
Nephritis of pregnancy	1
Menopause	2
Nephritis with hypertension	1
Rheumatic heart lesion	1
Overweight	1
Diarrhea	1
(21 patients showed a suggestion of exophthalmos)	

Fourteen patients with exophthalmic goiters were operated on within three months of the onset of symptoms (table 5). All are considered to be in a normal thyroid state, with basal metabolic rates ranging from +13 per cent to —13.1 per cent. In eleven no visceral harm could be detected; in two, injury due to former hyperthyroidism, and in one, injury believed to be due to gross focal infection (oral and tonsillar), was found.

Laryngeal nerve injury was noted in nine patients. In six the disability was temporary with final complete recovery. In one case the injury was present prior to operation; in two postoperative injury has persisted. Of the latter, one retains a husky voice, and one with permanent bilateral paralysis complains of occasional choking spells.

Evidence of postoperative tetany was temporary and insignificant in four patients during convalescence. It persisted and was demonstrable in one patient at the time of examination. In this patient the symptoms (cramping) were ameliorated by the administration of calcium.

Table 5.—*Present Status of Fourteen Hyperthyroid Patients Operated on Within Three Months of Onset of Symptoms*

Thyroid status considered normal	14
(Extremes of basal metabolic rate +13 and —13.1%)	
Residual injury:	
None demonstrated	11
Visceral injury result of hyperthyroidism	2
Focal infection	1

REOPERATION FOR REMOVAL OF THYROID REMNANTS

Ten patients had had previous thyroid operations in other hospitals. Six patients on my service who had had thyroidectomies performed during the past ten years have been operated on again for the removal of thyroid remnants. Five of these were operated on two times; one patient had four operations. Special consideration of these cases seems desirable:

Case 1.—A girl, aged 12 years, admitted, October, 1920, had had exophthalmic goiter for six months with a metabolic rate on admission of + 58 per cent. It was decided to try roentgen-ray treatment on account of her age. Two successive series of roentgen-ray treatments, were given with but little influence on the hyperthyroidism. Three months later a subtotal operation was done, but on account of the age of the patient the surgeon hesitated to do a very radical operation and considerable thyroid tissue was allowed to remain. The hyperthyroidism was only partially controlled. Five years later the metabolic rate rose from + 26 per cent in March to + 52 per cent in October, 1925. A radical subtotal thyroidectomy was then done. Following this operation the basal rate fell to — 24.6 per cent without symptoms of hypothyroidism. It has been necessary to administer thyroid extract to maintain a normal metabolic rate since then, but the patient continues apparently healthy without complaint and is following her usual occupation. She shows, however, evident injury on physical examination.

Case 2.—A railroad engineer with severe hyperthyroidism of seven years' duration, with much cardiac damage including fibrillation, and a basal metabolic rate of + 60 per cent, had the first operation in August, 1921. Convalescence was satisfactory until an acutely abscessed tooth and somewhat later an acute tonsillitis seemed to set off a hyperthyroidism as severe as before. A tonsillectomy was performed, and one month later (July, 1922), a second thyroidectomy. A large thyroid remnant located deep in the neck was removed. Following the second operation the basal metabolic rate dropped to — 2 per cent; since then it has continued within normal limits. He returned to work within three months and has continued well in spite of evident myocardial injury, after seven years of more or less continuous invalidism.

Case 3.—A truck driver, aged 38, with severe exophthalmic goiter (basal metabolic rate + 82 per cent), who had glycosuria and chronic oral and tonsillar infection, was operated on, June 11, 1925. Tonsillectomy and extraction of infected teeth was then done, but hyperthyroidism persisted (basal metabolic rate + 30 per cent). April 30, 1926, a second operation for the removal of thyroid remnants satisfactorily controlled the hyperthyroidism (basal metabolic rate + 12 per cent). He has resumed his work and considers himself well, although on examination he shows evidence, chiefly cardiac, of considerable residual damage.

Case 4.—A laborer, aged 39, with severe exophthalmic goiter of nineteen months' duration, had a large vascular gland and a basal metabolic rate of + 132 per cent. Operative difficulty due to hemorrhage was encountered on three occasions. A lobectomy, a ligation of thyroid tissue *en masse*, a thyroidectomy and finally an operation for thyroid remnants were done over a period of nine months before a satisfactory thyroid status resulted (basal metabolic rate + 1 per cent). Under stress of financial and family worries and the excessive use of tobacco he appeared, nineteen months after operation, still hyperthyroid with nervous symptoms and a metabolic rate of + 18 per cent. He was instructed to discontinue the use of tobacco and to stop worrying; iodine was administered in small doses (three drops of compound solution of iodine, three times daily). In four weeks the rate dropped to + 3.5 per cent; he appeared normal and had returned to work.

Case 5.—A farmer, aged 44, was admitted, Sept. 1, 1924, with severe exophthalmic goiter of eighteen months' standing; the basal metabolic rate was + 88 per cent, and the heart was fibrillating. On bed rest and iodine the rate dropped to + 30 per cent, September 30. A double ligation was done, October 11, and a subtotal thyroidectomy, November 1. Improvement did not result, fibrillation continued, and the metabolic rate remained high—from + 60 to + 70 per cent. December 13, a third operation, for thyroid remnants, was performed, and two large pieces of recently enlarged thyroid tissue (each the size of a walnut) were removed. Symptoms disappeared; the basal metabolic rate dropped to + 16 per cent, and normal cardiac mechanism was established. The patient has continued well during the twenty-eight months after leaving the hospital. Normal cardiac mechanism continues, and there is no physical or roentgen-ray evidence of cardiac injury. The basal metabolic rate is now +1.2 per cent.

Case 6.—A woman, aged 24, a stenographer, on whom a subtotal thyroidectomy was done in 1916 for exophthalmic goiter of six months' duration, regained vigorous health until 1921, when a return of symptoms, principally nervousness, tachycardia and loss of weight occurred, only partially controlled by iodine. By 1924 the symptoms were marked; the basal metabolic rate was + 34 per cent. A second operation was performed and large thyroid remnants were removed. A hyperthyroid crisis and recurrent laryngeal paralysis ensued; the former was relieved by iodine and drainage of wound secretion; the latter was temporary. The symptoms disappeared, and the basal metabolic rate dropped to + 2 per cent one month following the operation. A year later the patient considered herself to be perfectly well. Twenty-five months after the second operation, evidence of injury could not be demonstrated.

It is interesting to note that all six of the cases in which multiple operations for the removal of thyroid remnants were necessary were of the exophthalmic type with markedly hyperplastic and vascular glands. At the present time, twelve, twelve, seventeen, twenty-eight, forty-five and twenty-five months, respectively, following discharge from the hospital, all these patients are working at their usual occupations, four with normal metabolic rates, one with a low rate (— 24 per cent) but maintained normal with the administration of thyroid extract and one with a rate above normal (+ 18 per cent) but controlled (now + 3 per cent) by the continued administration of small amounts of iodine. Of these six patients, five considered themselves normal and were able to work within three, three, twelve, twenty-four and twelve months, respectively; one patient, nineteen months after the last operation, does not yet feel normal, although he is able to work. Four show physical evidence of injury due to the previous hyperthyroidism, and two show normal physical conditions throughout.

PATIENTS' ESTIMATE

Seventy of the 100 patients studied considered themselves perfectly well at the time of examination. Fifty-eight of these were able to estimate the time it took them to regain their health; twenty-three considered themselves well after three months; twenty-one within six months, and fourteen after periods varying from one to three years. Of the thirty who did not consider themselves perfectly well, sixteen complained of cardiovascular disturbances, sixteen of nervous manifestations, eighteen of weakness, two of hyperthyroid symptoms and four of hypothyroid symptoms. Six had pathologic conditions definitely not related to the thyroid gland.

ECONOMIC STATUS

All the patients reported are carrying on their usual occupations, and it is estimated that seventy-four of them do not have any essential disability, either from the ravages of the disease or from injury as a result of the operative intervention. Twenty-six show residual injury sufficient to cause some disability.

COMMENT

It would seem from an analysis of the foregoing statistical report of the examination of 100 cases of toxic goiter treated by thyroidectomy that hyperthyroidism in any of its more severe forms is a progressively damaging disease and that its progress should be controlled by whatever means, before irreparable visceral damage has been done. That a radical subtotal thyroidectomy, when actually accomplished, will control hyperthyroidism seems evident. Such an operation will probably cure the type clinically classified as toxic adenoma but may not cure exophthalmic goiter, even though the hyperthyroidism may be under control. In case hyperthyroidism is not controlled by a subtotal thyroidectomy the assumption seems reasonable that an active thyroid remnant remains, sufficiently large to produce hyperthyroidism and maintain a metabolic rate that is above normal. Under these conditions the administration of iodine may control the hyperthyroidism; otherwise further surgical attack seems warranted.

SUMMARY

The status of 100 patients from six months to six years after thyroidectomy performed for the relief of hyperthyroidism is as follows: Seventy consider themselves perfectly well; thirty are conscious of some disability; all are carrying on their usual work. Forty-one show evidence of definite visceral injury as the result of previous hyperthyroidism. Of fourteen cases of exophthalmic goiter in which operation was performed within three months of the onset of symptoms, only one shows residual visceral damage. Four patients are considered to have persisting but not disabling hyperthyroidism insufficient to require operation. Five patients are definitely hypothyroid, and are benefited by thyroid extract. Laryngeal nerve injury occurred temporarily in six cases; in two the injury has persisted. Reoperation for thyroid remnants was necessary in six cases.

CONCLUSIONS

Hyperthyroidism is a progressively harmful condition and should be controlled early before permanent tissue injury has occurred. Subtotal thyroidectomy early in the disease effectively controls hyperthyroidism, provided a sufficient amount of the gland has been removed. If hyperthyroidism continues after such an operation, too much thyroid substance has been permitted to remain. The preoperative administration of iodine seems equally effective, at least temporarily, in toxic adenomatous and in exophthalmic goiter. Thyroidectomy, even if performed late, after a prolonged period of hyperthyroidism, is a valuable procedure, enabling most patients to return to their previous occupations even though considerable residual injury may be evident.

30 North Michigan Avenue.

Clinical Notes, Suggestions and New Instruments

TWO CASES IN WHICH DEATH FOLLOWED INSUFFLATION OF THE FALLOPIAN TUBES

G. L. Moench, M.D., New York

At the New York Post-Graduate Medical School and Hospital in Dr. H. D. Furniss' service we had up to May, 1927, insufflated the fallopian tubes of considerably more than 200 women without any fatality or even untoward results of any nature. Nevertheless, accidents with the insufflation test of the fallopian tubes are now and again reported in the literature,[1] and the two cases reported here, from the office of the chief medical examiner of New York City, give the necropsy results in two women who died directly following such insufflation. In both instances I was assured by the physician to whom this unfortunate accident occurred that he had insufflated *numerous* patients before, had previously never seen any untoward results, and had carried out the procedure in this fatally ending case in exactly the same manner as always. A pressure of 220 mm. of mercury was not exceeded in either case.

REPORT OF CASES

Case 1.—E. J., a white married woman, aged 36, applied for medical attention because of menorrhagia during the past year and sterility for the past twelve years. Gynecologic examination revealed an old amputation of the cervix with moderate stenosis of the cervical os, and a slightly enlarged uterus with several rather small fibromyomas. An old healed median laparotomy scar below the umbilicus, from a previous appendectomy, was also present.

A gas insufflation of the tubes was done and the tubes were found closed. Following the gas test a dilation of the cervix and a curettage were performed under light ether anesthesia, during which the patient suddenly collapsed and died in a few minutes on the operating table without any apparent cause, since heart, lungs and kidneys had been found surgically competent before the woman went on the operating table.

The necropsy, done a few hours after death and while the organs of the body were still warm, revealed old right sided pleuritic adhesions but otherwise normal lungs. There were also some old omental adhesions to the laparotomy scar. The heart was normal except that the right heart contained numerous gas bubbles, which were present also in the inferior vena cava. The right femoral vein was opened and also contained gas. The genital organs were as described in the physical observations made during life, but in addition both tubes were found bound down by adhesions and closed. The right tube contained blood and gas bubbles. The right ovary presented a small corpus luteum; the left one, a small cyst. The appendix was missing. The rest of the autopsy was unimportant. There was no general congestion of the organs such as is found in cases in which death is due to the anesthetic.

The anatomic diagnosis was: Old healed laparotomy scar from previous appendectomy. Omental adhesions. Old right sided pleuritic adhesions. Abundant gas bubbles in right heart and inferior vena cava, and right femoral vein. Healed amputation of the cervix. Fibromyomas of the uterus. Perimetritis. Closed fallopian tubes. Blood and gas in right fallopian tube.

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[1] References to some of these are given in a previous article: Moench, G. L.: Some Experiences with Gas Insufflation of the Fallopian Tubes, J. A. M. A. **84**: 1802 (June 13) 1925. Kern, R. A.: Paroxysmal Tachycardia Following the Use of Air in Testing Fallopian Tube Patency, ibid. **86**: 623 (Feb. 27) 1926.

The cause of death was air embolus following gas insufflation of fallopian tubes and dilation of cervix and curettage.

Case 2.—L. M., a colored woman, aged 31, sought medical attention because she had never become pregnant during five years of married life. The patient was well nourished; the heart and lungs were normal; the gynecologic examination was essentially negative. An insufflation of the fallopian tubes was done in the usual manner except that oxygen was used instead of carbon dioxide. The gas flowed only when a pressure of nearly 200 mm. of mercury was reached. Following the flow of gas, the patient suddenly collapsed and died in a few minutes. The attending physician in this case wrote a death certificate which was, however, rejected by the board of health. As a result the necropsy was performed after the deceased had been embalmed. The undertaker stated, however, that the embalming had been done only through the right brachial artery, the thorax and abdomen having been left undisturbed. The necropsy corroborated this, as no puncture marks were found in the abdominal wall or in the peritoneum.

When the abdomen was opened an escape of gas occurred and the cavity was found filled with turbid yellowish fluid. One loop of the small intestine in the pelvis showed one small tear. The rectum and the anal canal were natural. The vagina was normal and did not show puncture marks. The cervix presented a round external os with several nabothian follicles. On the anterior cervical lip there was a puncture mark 1 mm. in diameter, apparently from volsella. The fallopian tubes appeared free and fairly normal, but there were delicate fibrous adhesions between the uterus and the rectum. On the posterior surface of the uterus a small red spot, not presenting a track, was found. The ovaries were somewhat sclerotic. The veins on the posterior surface of the left ventricle contained some gas bubbles. The rest of the necropsy was negative except for slight pulmonary congestion.

The anatomic diagnosis was: Slight pulmonary congestion. Gas in veins of heart, gas in abdomen. Perforation of small intestine. Perforation of uterus (?).

The cause of death was postoperative surgical shock following oxygen insufflation of the fallopian tubes.

COMMENT

In evaluating the necropsy observations made on these two women, one encounters few difficulties as far as the first case is concerned. There can be no doubt that death was caused by an air embolus and it also seems very probable that this condition was produced by the opening of the blood spaces during the curettage. The case is a definite warning that a gas insufflation of the tubes must not be directly followed by any operative procedure.

In the second case likewise there is no doubt that the tubal insufflation caused the death of the patient, although the exact mechanism that produced this fatality is rather open to question. It seems unlikely that a uterine perforation took place, as the cannula used in the gas insufflation test, being of rather large caliber, would leave a definite track. No such track, however, was discernible by postmortem examination. Since adhesions were present between the rectum and the uterus, and since the gas started to flow only at a high pressure, it may be possible that the fallopian tubes were originally closed and adherent to the intestine and to the red spot found on the posterior surface of the uterus and were torn loose by the gas pressure, causing at the same time a laceration of the intestine. Under the circumstances described, the intestinal lesion must have occurred before death. Another possibility which must be considered is that more gas than was recognized was passed into the abdomen, and that this caused excessive pressure, shock and death. As far as the gas in the veins of the heart is concerned, I believe we must let its origin remain in doubt. It may have been the result of the insufflation test but, on the other hand, may also represent air introduced through the brachial artery in the process of embalming the body.

The two cases simply show that the dangers of the gas insufflation of the tubes should not be underestimated. The indications for the test should be limited and well defined, the necessary precautions should be scrupulously observed, and the other simpler and more harmless methods of examination should first be thoroughly tried out.

30 East Fifty-Eighth Street.

THE ANATOXIC EFFECT OF BILE ON TYPHOSUS CULTURES

G. E. Pangalos, M.D., Athens, Greece

Dr. Vincent, twenty years ago, pointed out that bile has an anatoxic effect on the germs of the intestinal flora, and by some recent experiments he proved that there were some albumins on which bile had a special effect, and called them the cryptotoxins. Ramon, Berthelot, Grasset and Miss Amoureux have studied the effect of bile on different toxins and fungi (tetanus, colon bacillus, dysentery and anthrax). It is understood that bile composed of lipoids, soap, fat and pigments has a colloid substance. It would be more interesting to study the effect of bile on germs for which it is a favorable culture medium: I mean the typhosus and paratyphosus groups.

For that purpose I performed the following experiments:

1. Five cubic centimeters of a broth culture of *B. typhosus* injected into the peritoneal cavity of a rabbit weighing 750 Gm. killed the animal in twelve hours, and at the postmortem, the same germ was found in the peritoneum and in the blood taken from the heart.

2. Another culture of the same germ made on broth containing 25 per cent of bile as rich in germs as the previous culture, injected in the peritoneum of a second rabbit of the same weight, had no effect on its life. If four days afterward the same rabbit is injected with a culture of Eberth's bacillus made on simple broth, the animal dies. This shows that in four days the animal has no time to develop the necessary immune bodies against the typhoid germ.

3. If, on the contrary, a rabbit weighing 1,500 Gm. is injected with 6 cc. of the Eberth culture in bile broth medium, eight days old, and then ten days afterward the rabbit is injected with a culture of Eberth's bacillus in simple broth, the second injection does not have any effect on the animal, showing that it was immune by this time from the previous inoculation.

From the foregoing facts I came to the conclusion that bile had a marked anatoxic effect on the culture of *B. typhosus*, although bile itself is not an antiseptic, nor has it any lytic effect on these germs.

The biologic effect of these facts is very important, for bile constitutes a previous element for preparing typhoid vaccines and it can be hoped that by the same way it will be possible to obtain atoxic cultures, so that the germs can be used alive for the vaccinations.

18 Beranger Street.

It Is Natural for a Child to Possess Evil Impulses.—Do not expect from a child any great amount of moral goodness. During early years every civilized man passes through that phase of character exhibited by the barbarous race from which he descended. As the child's features—flat nose, forward-opening nostrils, large lips, wide-apart eyes, absent frontal sinus, etc.—resemble for a time those of the savage, so, too, do his instincts. Hence the tendencies to cruelty, to thieving, to lying so general among children—tendencies which, even without the aid of discipline, will become more or less modified just as the features do. The popular idea that children are "innocent," while it is true with respect to evil knowledge, is totally false with respect to evil impulses, as half an hour's observation in the nursery will prove to any one. Boys when left to themselves, as at public schools, treat each other more brutally than men do; and were they left to themselves at an earlier age their brutality would be still more conspicuous.—Spencer: Essays on Education, pp. 108-109.

THE JOURNAL OF THE
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SATURDAY, AUGUST 13, 1927

LIVER EXTRACTS IN ANEMIA

The striking effect of feeding liver and certain preparations of liver on a number of physiologic processes has been established through experimental investigation. In the case of growing animals it appears, according to the observations of Osborne and Mendel, to promote rapid gains in size. Whipple[1] and his associates at the University of Rochester have demonstrated the extraordinary effect of diets including liver on severe anemias of long standing in dogs. The vigorous regeneration of hemoglobin and red blood cells can be brought about by feeding the hepatic tissue of various species, beef, pig, sheep, calf and chicken having been tested with unquestionable success.

The striking positive results achieved in the treatment of human cases of pernicious anemia by Minot and Murphy[2] with diets containing large amounts of liver in one form or another have been hailed almost as a panacea for a heretofore decidedly intractable disease. According to these investigators, during a relapse in the malady the ingestion of liver appears to cause the rapid maturation of the megaloblasts crowding the bone marrow. They report the response to the feeding of liver to be reflected in the peripheral blood by a temporary increase in the number of reticulated red blood corpuscles, followed by a marked rise in the total number of erythrocytes and in the concentration of hemoglobin. The quantity of liver apparently requisite for good therapeutic effects is not inconsiderable. As a result, the prolonged administration of this item of the diet has proved to be decidedly unappealing if not actually objectionable to many patients. This circumstance alone would warrant the search for the effective liver component in the hope of being able to supply the concentrate or relieve the monotony of the enforced regimen. Furthermore, there is naturally a large scientific interest in discovering the "active principle" quite aside from such practical considerations. It is fortunate, therefore, that at the Harvard Medical School Cohn[3] and his collaborators have succeeded in fractioning liver extracts so as to secure potent concentrates. The effective substances are free from lecithin and ordinary lipoids, and they contain at most only traces of protein, sulphur or iron. The latter element cannot, therefore, account for the hematopoietic action of liver. The details of the preparation of concentrates that suffice in daily doses of a few grams at most to show good therapeutic effects in pernicious anemia represent the application of modern cell chemistry. The biochemists will probably succeed before long in the isolation of chemically individual substances that represent the responsible constituent.

As Whipple and Robscheit-Robbins[4] have contended, the outcome of these studies suggests that pernicious anemia represents essentially a faulty blood construction rather than an increased disintegration of blood factors. Perhaps, they urge, this disease is a real deficiency disorder in which material for the construction of the stroma of the red blood cells is wanting.

ALBRECHT KOSSEL

The death of Dr. Albrecht Kossel, long professor of physiology in the University of Heidelberg, at the age of 74, serves to recall his services and his distinguished contributions to the science of physiologic chemistry. Kossel was one of the most talented pupils of Hoppe-Seyler, from whom he evidently received not a little directive inspiration. For many years Kossel served in charge of the chemical laboratory of the large physiologic institute at the University of Berlin, from which he was called to Marburg and finally to Heidelberg. After the death of Hoppe-Seyler in 1895, he became an editor of the *Zeitschrift für physiologische Chemie*, along with Eugen Baumann, succeeding to complete editorial charge on the death of the latter not long thereafter. This journal, a pioneer in its special field, contributed in no small measure to give physiologic chemistry—or biochemistry, as it is now commonly designated—a position of academic independence at a time when there was reluctance to permit the divorce from physiology either in the direction of professional appointments or in the field of independent scientific publication.

Kossel's reputation will most probably rest on his contributions to our knowledge of the chemical nature of the proteins and the nucleic acids. His studies were directed toward the very fundaments of the chemistry of the cell when he devoted his energies to unraveling the complexities of the nucleus. To him we owe in large measure the more intelligent appreciation of the significance of the so-called purine substances in physiology and their participation in the make-up of the nucleic acids. Thus the true origin of uric acids from the purines in metabolism was brought to light. The pyrimidine "building stones" of the nucleic acids also received their earliest recognition from Kossel. These various classic researches dealing so successfully with the chemical basis of life won for him one of the early awards of the Nobel prize.

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[1] Whipple, G. H.; Robscheit-Robbins, F. S., and Hooper, C. W.: Am. J. Physiol. **53**: 236 (Sept.) 1920. Robscheit-Robbins, F. S., and Whipple, G. H.: Ibid. **72**: 408 (May) 1925.

[2] Minot, G. R., and Murphy, W. P.: Treatment of Pernicious Anemia by a Special Diet, J. A. M. A. **87**: 470 (Aug. 14) 1926.

[3] Cohn, E. J.; Minot, G. R.; Fulton, J. F.; Ulrichs, H. F.; Sargent, F. C.; Weare, J. H., and Murphy, W. P.: The Nature of the Material in Liver Effective in Pernicious Anemia: I, J. Biol. Chem. **74**: lxix (July) 1927.

[4] Whipple, G. H., and Robscheit-Robbins, F. S.: Simple Experimental Anemia and Liver Extracts, Proc. Soc. Exper. Biol. & Med. **24**: 860 (June) 1927.

In the domain of protein chemistry Kossel has laid the foundations for some of our current conceptions. Here he specialized in what were long termed, in harmony with his suggestion, the hexone bases. Among these arginine and histidine—the latter his discovery—long engrossed his attention. The enzyme arginase, whereby arginine is converted to urea, was first described from Kossel's laboratory. Biochemical technic owes much to his skill and the contributions of his pupils. Of late, Kossel served as director of an institute for the investigation of the proteins, a post created for him after his retirement from the professorship of physiology. Kossel's decease, July 5, brings a termination to a career unusually fruitful for the sciences on which medicine rests. The *Zeitschrift,* so long edited by him, bears witness to his devotion to the science that he helped to establish on an independent footing.

IMMUNITY FROM TUBERCULOSIS

A recent writer,[1] himself a competent investigator in the field of tuberculosis, has justified the prevailing skepticism and apathy toward new studies on the problems of immunity in this disease for the reason that many claims in the past, when subjected to a rigid test, failed to meet all the requirements. Despite this attitude there has by no means been an entire lack of interest in the possibilities of prophylactic immunization. The evidence for a widespread occurrence of infection with an apparently low death rate gives strong substantiation of the development of a natural resistance to tuberculosis; this in turn justifies the hope of securing added protection through the artificial stimulation of the protective mechanism.

The procedures for attempting this have involved for the most part the use of tubercle bacilli in one form or another. Theoretically, artificial immunization with living virulent micro-organisms is a logical method. It has, indeed, been applied with some success in carefully controlled instances. As the focus with living organisms must persist for the continuance of satisfactory immunity, the situation involves a potential danger that cannot be disregarded. As Petroff[1] has remarked, however effective the procedure is, the compensation paid for such an immunity is expensive; indeed, it is an actual infection.

Vaccination with avirulent organisms is a safer procedure. It has received unusual consideration as a result of the studies of Calmette and his co-workers at the Pasteur Institute in Paris. These have recently been reviewed in some detail in The Journal,[2] which cautioned against uncontrolled enthusiasm despite the promising possibilities that have been portrayed by the distinguished French workers. Petroff regards vaccination of this sort as a safer procedure than vaccination with virulent organisms. However, he insists that it is not known what may happen to the latter after they have been passed through the body several times. He therefore champions the use of dead tubercle bacilli for studies in immunization. There is less danger in using such material, and the immunity established is said to be more than partial. At any rate, the laboratory experiments lead Petroff to the conclusion that "dead tubercle bacilli or some of their derivatives can be used safely and effectively in immunizing the human race." Every one concerned with the difficult problems of preventive medicine in tuberculosis may feel assured that the possibilities of satisfactory practical protection have by no means been exhausted.

THYMIC SYMPTOMS

The functions of the lymphoid organ known as the thymus, like those of the spleen, may properly be said to remain for the most part shrouded in mystery. The one well established fact with regard to the thymus is that it undergoes involution after the age of puberty and may even disappear in the adult. Conjectures regarding its possible action as a gland of internal secretion are based on extremely indirect evidence. The chaotic condition of the literature regarding the organ is indicated by the remark of a recent writer who asserted that each concept advanced as to its origin, function, growth and possible pathologic significance has immediately been challenged. Extirpation experiments, which have given so much valuable testimony with respect to the physiologic uses of such organs as the pancreas and the kidneys, have failed thus far to offer any dependable clues to investigators.

Strangely enough, despite all this indefiniteness and uncertainty certain striking abnormalities of considerable clinical significance have been described as thymic symptoms. The expression "status thymicolymphaticus" has found acceptance in describing—and indirectly attempting to explain—certain conditions sometimes ending in death. Status lymphaticus is regarded as "a constitutional state of infancy, or as the normal infantile lymphoid status retained after puberty, with or without a narrowed aorta, or as a state occurring at any age."

Apart from constitutional weaknesses that may lead to death in these somewhat indefinable ways through causes that would be of insignificant effect on normal persons, there is the possibility of harmful mechanical effects of the thymus. The "mors thymica," or thymic death, due to mechanical compression of the trachea and other strictures, is an anatomic possibility. According to carefully kept records at the University of Minnesota Medical School,[1] thymic symptoms may be produced during the first year of life by mechanical pressure of a normal gland on mediastinal structures, especially on the recurrent laryngeal nerve. There was, however, no case giving any indication that pressure by the thymus on the trachea caused death.

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[1] Petroff, S. A.: Immunity in Tuberculosis, J. A. M. A. 89: 285 (July 23) 1927.

[2] Vaccination of the New-Born Against Tuberculosis with Bacillus Calmette Guérin, editorial, J. A. M. A. 89: 115 (July 9) 1927.

According to Boyd,[1] inadequate understanding of the natural changes in the condition of the thymus from time to time in different persons is responsible for much misconception about the so-called status thymicolymphaticus in particular. The growth curve of the thymus in a well nourished child is of the same type as that of the lymphoid tissues in general. Fluctuations in the weight of the thymus at any age period are concomitant with fluctuations in body weight. Some illnesses may, however, affect the thymus before they show an influence on the general state of the body's nutrition. Accidental involution also may occur, as well as the age involution beginning at puberty. The size and structure of the thymus present large factors of uncertainty in any attempt to base diagnostic statements on them. The concepts of "lymphatic constitution" unquestionably need considerable revision, with abandonment of many obscure views.

Current Comment

HEAT-STROKE

It is not difficult to understand why so few dependable facts have been acquired with respect to heat injuries of the type represented by so-called heat-stroke. The malady either is acutely fatal or experiences a rapid release from the imminent danger, so that the opportunity for securing data regarding the chemical pathologic changes, in particular, is correspondingly limited. In the major heat-stroke that is attended with thermic fever there are often evidences of renal injury that may persist for some time. Destruction of protein, incident to the raised temperature of the body, increased metabolism and tissue injury might be anticipated from any febrile reaction of a pronounced sort. Years ago it was first announced that the blood of persons suffering from heat-stroke of a severe type shows an acid reaction. The real significance of this observation, made before the introduction of modern methods and technic in blood analysis, was indicated in a recent report by Hall and Wakefield.[2] Their experiments on animals indicated that the lactic acid content of the blood may reach very high levels in major heat-stroke, with increases of more than 300 per cent above the normal level. To this, some of the important acute pathologic changes are attributed, the resulting symptoms representing a true acidosis. The phenomena were characterized by an absence of ketone substances; that is, freedom from ketonic acidosis. This is a peculiarity sufficiently important to receive emphasis.

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[1] Boyd, Edith: Growth of the Thymus: Its Relation to Status Thymicolymphaticus and Thymic Symptoms, Am. J. Dis. Child. **33**: 867 (June) 1927.

[2] Hall, W. W., and Wakefield, E. G.: A Study of Experimental Heat-Stroke, J. A. M. A. **89**: 177 (July 16) 1927.

THE BILE AND PANCREATIC SECRETION

The secretions that pour into the alimentary canal are for the most part under the control of the nervous system. The effectiveness of this in regulating their flow is probably most conspicuous in the case of the salivary glands. Normal pancreatic secretion differs from the salivary output in being more dependent on chemical stimulation than on the nervous regulation. This has been realized since 1902, when Bayliss and Starling demonstrated the so-called hormone influence on secretion. It is known that the pancreas responds, by secretion, to the presence of gastric acid in the duodenum, though the specificity of the stimulation of the gland by secretin, prepared by the action of dilute acid on the mucous membranes, has been much debated. Last year Mellanby[1] suggested that bile is the alimentary stimulus of pancreatic secretion functioning by causing the elaboration and absorption of secretin. His experiments have been repeated and extended by Ivy and Lueth[2] of the Northwestern University Medical School, Chicago, who likewise find that bile stimulates pancreatic secretion. They believe, however, that it is less potent than acid of the gastric strength; and in the species studied, at least, they regard bile as an adjuvant rather than an essential alimentary stimulus of pancreatic secretion.

WATERMANSHIP VERSUS SWIMMING QUALIFICATION

The enormous death rate from accidents continues to attract widespread attention,[3] but it is not generally recognized that accidental drowning is the cause of a large portion of the total. In the navy, drowning is the most frequent cause of death and in the registration area of the United States exclusive of Hawaii about 6.5 persons per hundred thousand of population lose their lives in this way each year.[4] Such a death rate places accidental drowning in the class with the mortality from typhoid, and deaths from both causes are almost entirely preventable. Recently, R. B. Miller,[5] in an effort to reduce the likelihood of drowning in the navy, has called attention to the difference between the qualified swimmer and the experienced waterman. The initiate in watermanship acquires a "knowledge of those things over and above mechanical swimming which permits him to adjust himself to the various unfavorable conditions often encountered in emergencies he meets and which gives him a discretion that enables him to avoid dangerous situations." A waterman possesses confidence but not foolhardiness; he appreciates both the buoyancy and the treacherousness of his element; he can remain afloat with little or no effort, clothed or unclothed, in rough or smooth water; he is oriented whether his head is below or above the surface; he inhales, by second nature, only when his airway is free; he expends strength only when effort will avail him; he can swim rapidly if necessary; he is relatively safe even when beset by cramps, currents or undertow, for he knows how to combat all three; he never becomes confused; panic is impossible to him. Unfortunately, acquirement of these qualities appears deceptively easy to the observer who has limited acquaintance with the water, and with the present educational emphasis on swimming qualifications it usually requires one disagreeable experience to convince the qualified swimmer that he is not a waterman. Frequently this experience is fatal. Training in watermanship rather than in mechanical swimming might decrease the number of such fatalities.

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[1] Mellanby, J.: J. Physiol. **61**: 419 (June) 1926; Lancet **2**: 215 (July 31) 1926.

[2] Ivy, A. C., and Lueth, H. C.: On Bile Stimulation of Pancreatic Secretion, Proc. Soc. Exp. Biol. & Med. **24**: 837 (June) 1927.

[3] Eight Year Total of Automobile Deaths Enormous, J. A. M. A. **89**: 459 (Aug. 6) 1927. Accidental Deaths in July, ibid. **89**: 456 (Aug. 6) 1927.

[4] Mortality Statistics, 1924, Department of Commerce, Bureau of the Census, Government Printing Office, 1927, p. 116.

[5] Miller, R. B.: Some Observations on Avoidable Drowning, U. S. Nav. M. Bull. **25**: 505 (July) 1927.

"YOUR MONEY'S WORTH"

No one group has done more to "debunk" the commercial practices of those dealing in the special merchandise of the group than has the medical profession. Furniture dealers are by no means agreed that it is in the public interest to let it be generally known that a table made of birchwood with a thin veneer of mahogany is not the "solid mahogany" of the advertisement; the gentlemen in "suits and cloaks" are far from agreeing that there is any moral defection in describing a garment of cotton and shoddy as "all-wool"; furriers still act on the principle that it is permissible to unload dyed muskrat on the public as "Hudson seal"; the manufacturers of a well known brand of soap admit privately that the slogan "99 and 44/100% pure" is a slogan rather than a fact. But, for over twenty years, the organized medical profession has attempted to bring to a minimum misrepresentation and deceit in the exploitation of medicinal products. Physicians, then, as a class, will probably be more interested than any other one group in the book recently published under the title "Your Money's Worth,"[1] by Stuart Chase and F. J. Schlink. Neither of the authors is a physician, but both of them have been trained to clear thinking and, what is equally evident from their book, to a lucid expression of facts. Mr. Chase, for some years on the staff of the Federal Trade Commission and at present a director of the Labor Bureau, Incorporated, is by profession a certified public accountant. Mr. Schlink, a mechanical engineer-physicist and an officer of the American Engineering Standards Committee, is fortified by an experience he had of some years on the staff of the National Bureau of Standards at Washington. "Your Money's Worth" appeared originally as a series of magazine articles, under the title "Consumers in Wonderland." The book deals not so much with adulteration of products and deceptive advertising as outstanding evils of modern merchandising as with the wastefulness of selling what are practically identical articles under various brand names and with the absence of impartial information available to the public. In a few of the industrial fields, the public is protected in its purchases by standardization worked out by the industry itself, but the ground thus covered is pitiably small. Medicine, however, has reason to feel proud of the fact that it was among the first, both in point of time and of importance, in establishing agencies whereby the public, through the profession, could be protected. In speaking of this phase of the problem, discussed by Messrs. Chase and Schlink, they say:

> Far and away the leader among the technical societies from the point of view we are considering is the American Medical Association. It is as fearless as it is explicit in the exposure of quackery. Its Council on Pharmacy and Chemistry and its Bureau of Investigation are continuously busy in the public interest. It has haled untold rascals before the bar of public opinion; broken up hundreds of shell games.

We unreservedly recommend "Your Money's Worth" as a book that is not only readable and teeming with facts, but as one that will appeal to the physician, both in his professional capacity and also as one of the great army of ultimate consumers of modern merchandise.

PSYCHOANALYSIS

Since 1894, when the freudian doctrines came conspicuously on the scientific scene, the technic, the theories and the practice of this offshoot from psychology, religion and medicine have aroused argument. Perhaps much of the disfavor with which its progress has been viewed has resulted from the practice of psychoanalysis by numerous charlatans, who should have been promptly condemned by honest scientific investigators but whose adherence to the ranks was welcomed in some instances because the battle to establish psychoanalysis as a science was apparently a losing one and any support seemed helpful. With the passing of time, every one with any knowledge of the subject is ready to admit that the contribution of Sigmund Freud has been significant and that his position in psychology is secure. It is not, however, the position assigned to him by either his friends or his enemies. The psychoanalytic methods are still on trial, perhaps because their effects seem frequently almost antisocial. The sensational phases of the subject have attracted so much lay interest that discussions appear widely in newspapers and lay periodicals. In a recent issue of *Liberty* Brenda Ueland begins what is apparently the first of a series of articles on psychoanalysis, this one called "nut crackers." Her significant conclusion is the warning that "there are scores of quasi-psychoanalysts and quacks who will take a great deal of your time and money if you will let them, and who may advise you into a bad marriage or some other mess." The author is apparently inclined to accept the opinion of William McDougall as to the present status of the freudian views and practice; namely, that many of the freudian methods are important, that conflict and repression are principal factors in the genesis of functional disorders, and that sexual difficulties are one of the greatest causes of disorder, but not of all disorders. On the other hand. Professor McDougall is not willing to accept the immense significance attached by the freudians to the Oedipus complex. With these reservations, Professor McDougall is quoted as saying, "I believe Professor Freud has given an immense impetus to a much needed reform in psychology and has enriched psychology with many valuable conceptions."

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[1] "Your Money's Worth." By Stuart Chase and F. J. Schlink. Cloth. Price $2. Pp. 285. New York: MacMillan Company, 1927.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

North and South Medical Golfers Meet at Del Monte.—The annual golf tournament between the northern and southern California medical golf associations will be played again this year at Del Monte, October 29-30 The southern players will leave Los Angeles on a special train, October 28, for Del Monte, for which special railroad and hotel rates have been arranged Play will start the first day on the Del Monte course, and will be completed the following day on the Pebble Beach course Trophies will be awarded to individuals and teams on handicap, and all play will be in team matches The bronze plaque was won last year by the north on points Dr Walter V Brem, Los Angeles, is captain of the southern team, and Dr Paul M Hunter, Pasadena, California amateur champion, is a member of the team

Child Dies of Bubonic Plague —The first fatal case of bubonic plague to occur in the United States in the last eighteen months was that of a child in Clayton, Contra Costa County, July 8 According to the report to the U S Public Health Service, the family in which the death occurred had been trapping ground squirrels for food The diagnosis in this case was confirmed by the inoculation of a guinea-pig with a culture from the patient Since this case occurred, more than 5,000 ground squirrels in Contra Costa County have been killed, and all of them were found negative for plague infection For twenty-seven years, a campaign has been conducted by state health authorities, cooperating with the U S Public Health Service and the Department of Agriculture to eradicate plague from the ground squirrels in California.

COLORADO

Graduate Course for Specialists.—The Colorado Ophthalmological and the Colorado Oto-Laryngological societies presented their summer graduate course, July 18-30, for the fifth consecutive year Sixty-three specialists from various parts of the country registered for the clinics, demonstrations and lectures The instructors included Drs John M. Wheeler, New York, Allen Greenwood, Boston; Harold M Hays, New York, and George L Richards, Fall River, Mass, who were assisted by local physicians At the daily luncheon, questions which had been handed in by the students were discussed Two days of the two weeks were set aside for the reading of papers sponsored by the Colorado Congress of Ophthalmology and Oto-Laryngology. One afternoon was spent motoring among the mountains A fee of $50 was charged to cover the actual expenses of this intensive postgraduate program.

State Medical Meeting.—The fifty-seventh annual meeting of the Colorado State Medical Society will be at Glenwood Springs, September 6-8, under the presidency of Dr George H Curfman, Salida, with headquarters at the Hotel Colorado. The house of delegates will meet the evening of September 5. The program has been arranged so that part of each afternoon will be free for trips to the canyon and other places, and for fishing and golf The president elect, Dr William A Sedwick, offers a pair of beautiful vases for the winner of the golf tournament. The president's reception and ball will be Tuesday evening, the annual banquet, Wednesday evening, and a barbecue, Thursday afternoon. Among the subjects for discussion at the sessions will be "The Rheumatic Heart" by Dr. Stewart R. Roberts, professor of clinical medicine, Emory University School of Medicine, Atlanta, Ga ; "Use of High Carbohydrate Diet in Treatment of Diabetes Mellitus," Dr. William D. Sansum, Santa Barbara, Calif , "Surgery of Goiter," Dr. Arnold S Jackson, Madison, Wis, and a subject to be announced later by Dr. Alfred J. Brown, assistant professor of surgery, University of Nebraska College of Medicine, Omaha. Among the Colorado physicians on the scientific program are Drs John B Davis, William M. Spitzer, George S. Johnson, William Walter Wasson, Lorenz W Frank, Lumir R Safarik and Robert G. Packard, all of Denver; Charles O. Giese and Solomon W Schaefer, of Colorado Springs; George M Myers, Orville B. Chandler and Atha Thomas, of Pueblo, and George H. Cattermole, of Boulder.

CONNECTICUT

Italian Diplomas Questioned.—The Connecticut Department of Health reported that the following persons apparently hold diplomas from the Italian schools indicated, which diplomas they did not secure at the school from which they claim to have graduated The department of health has notified all medical examining boards of this fact, and will give further information if requested These persons, who, the letter states, secured diplomas in some way from Italian medical schools, were examined by the Connecticut Eclectic Medical Examining Board and were licensed in Connecticut.

	Reported Graduated	Licensed	Last Known Address
University of Rome			
Sera, Emilio G..........	1903	1905	1917—Brooklyn
Avignone, Francis T.....	1902	1905	
University of Palermo			
Bentivegna, Joseph......	1896	1897	Now reported deceased
Terranova, Francesco P..	1902	1906	Now reported deceased
Pittaro, Vito A.........	1902	1905	New York City, reported to have lived in Stamford a short time
Cipollo, Carlo P.........	1903	1905	620 West Houston Street, San Antonio, Texas
Germano, Giuseppe	1900	1904	189 Howland Avenue, Kenosha, Wis
Grana, Giovanni	1894	1897	447 Clinton Avenue, N. Rochester, N. Y.
University of Naples			
Cennicola, Henry	1892	1894	Now reported deceased
Cenicola, Angelo	1872	1895	Now reported deceased
Tommasello, Stanley.....	1901	1905	260 Grand Avenue, Brooklyn
Cutolo, Edwards........	1897	1905	
Grossi, Anchise	1900	1905	
Rubertone, Nicola	1903	1906	
Reno, (Sarlo) Vincenzo .	1896	1906	Hudson Boulevard, Union City, N. J
DeAngelis, Alfonso . ..	1887	1906	
Graziano, Vincenzo .	1884	1905	
Cerulli, Nicola . .	1897	1906	
Geneva Medical College			
Marini, Enrico G........	1896	1906	
Rossi, Donato	1903	1906	
Soldani, Emanuel.... ..	1902	1906	
Biondi, Angelo F ..	1893	1906	1919 address, Newark, N J.
University of Bologna			
Lapenta, A. M. Sufh....	1885	1895	Now reported deceased
Fabbri, Romo	1902	1905	354 East Main Street, Norristown, Pa
Sollima, Edward L......	1899	1906	69 Federal Street, Portland, Maine
Abbemonte, Oreste E.. .	1895	1906	

Midwives who claim graduation from Italian colleges and who reside out of the state

University of Naples			
Maria DePamphilis..	1891	1905	
Antonietta Avino	1909	1925	643 Caldwell Avenue, New York
University of Catania			
Francesca C Vassallo ...	1895	1901	
University of Palermo			
Rosalia Alterisi	1905	1907	Reported retired; now resides in Illinois
Carlotta Dimonte (also Demonte)	1900	1905	233 Smith Street, Dunmore, Pa.
University of Bologna			
Lucia Cantore	1905	1906	

DISTRICT OF COLUMBIA

Washington Selected for Headquarters Building.—The American Pharmaceutical Association has selected Washington as the location of its new headquarters building, for which it has been conducting a campaign since 1924 for not less than $500,000 The fund is not only for the purpose of erecting a building, but for an endowment to provide for the activities of the association, to afford facilities for representatives of national drug trade associations and to serve the interest of pharmacy in all its branches. Among other things, there will be provision in the building for research laboratories, museum, library and offices

Personal.—Lieut. Col. Charles F. Craig, director of laboratories, Army Medical School, was elected president of the Washington branch of the American Society of Bacteriologists in May.——Lieut. Col. Henry J. Nichols, formerly director of laboratories, Army Medical School, wrote the chapter on "Yaws" in the recent Textbook of Medicine edited by Dr. Russell L. Cecil, New York, and Capt. Joseph H. St. John, instructor in protozoology, Army Medical School, wrote the chapter on "Relapsing Fever."——The following physicians have been appointed to the staff of the Washington Sanatorium and Hospital, Takoma Park; Almon J. Balkins, Orlando, Fla.; Henry H. Hall, St. Paul, and Julian M. Howe, Washington, D. C.——Dr. William A. White, superintendent, St. Elizabeth's Hospital, will give an address during the annual meeting of the American Bar Association, Buffalo, August 30, on "Need for Cooperation Between the Medical and Legal Professions in Dealing with Crime."

FLORIDA

Hospital News.—The city of Tarpon Springs offered the fully equipped Tarpon Springs Hospital to the physicians of the city for them to run for one year, during which time the city would guarantee up to $500 a month against a deficit.——Dr. Alexander J. McRae, Miami, was made president elect of the newly organized Florida Hospital Association at Jacksonville, June 28.

Society News.—Physicians of Putnam County organized the Putnam County Medical Society, July 20, at a meeting at Palatka, electing Dr. John T. Hosey, president, and Dr. Edmund W. Warren, secretary.——Dr. Rupert H. Stovall, Fort Lauderdale, addressed the Broward County Medical Society, July 12, on "Management of Intestinal Disturbances in Bottle Fed Babies."——Dr. Leigh F. Robinson addressed the Florida East Coast Dental Society, Fort Lauderdale, July 28, on "Relation of Dental Sepsis to Systemic Disease."——At the July 27 meeting of the Palm Beach Academy of Medicine, the speakers were Drs. Ralph N. Greene and Ernest B. Milam, both of Jacksonville, and Dr. John A. Simmons, Miami, president, Florida Medical Association.——The Florida East Coast Medical Association, comprising members of the county societies from Daytona to Key West, was recently organized with Dr. William E. Van Landingham, West Palm Beach, president; Drs. Henry C. Babcock, Miami, and Leigh F. Robinson, Fort Lauderdale, vice presidents, and Dr. Roy J. Holmes, Miami, secretary-treasurer. The first meeting will be at West Palm Beach in November.

ILLINOIS

Society News.—The Peoria County Medical Society held its annual picnic, July 21, at the North Shore Country Club, Peoria. A program of sports, including golf, swimming and races, was provided. Following the basket dinner in the evening, a moving picture was presented. Prizes were given to winners of the various contests. Dr. G. Henry Mundt, Chicago, president of the state medical society, gave an address.——The Adams County Medical Society, Quincy, plans an all day meeting for November 14. Three prominent physicians will be the guests of honor.

Conference on Public Welfare.—Two days previous to the annual Illinois Conference on Public Welfare, October 17-18, courses of study will be given for social workers and others concerned with social work. There will be five courses each, consisting of four sessions and costing $3. Enrolment in each course will be limited, and no one can take more than two courses. Among the instructors will be Dr. Herman M. Adler, director, Institute for Juvenile Research, Chicago, and other instructors who are officers of various national organizations engaged in public welfare work. The subjects of the courses will be: (1) problems of admission, placement and discharge by child-caring institutions and agencies; (2) probation methods; (3) administration of mothers' pensions; (4) mental factors in social case work, and (5) fundamental principles of social case work. Inquiries should be addressed to the chairman, 848 North Dearborn Street, Chicago.

Thyroid Survey in Decatur.—With the cooperation of the Decatur Medical Society and the local school authorities, the health department of Decatur and the state department of health conducted a thyroid survey of the school children of that city. It was desired to determine the prevalence of thyroid enlargement among the school children, and to learn whether it was more prevalent in Decatur where the city water was free of iodine than it is in other places where the water supply contains iodine. The survey began, February 14 and continued for seven days, and a total of 10,055 pupils was examined. Of this number, 5,338, or 53 per cent, showed some degree of thyroid enlargement; in 36 per cent it was "very slight"; in 15 per cent "slight"; in 0.1 per cent "severe," and in 0.04 per cent "very severe." The fifth grade school children had the largest percentage of normal thyroids; the senior grade the second largest percentage of normal thyroids. The severe and very severe enlargements were most prevalent in the junior grades. The more marked enlargements, as a rule, were found in the higher grades according to Dr. William S. Keister, the former city health officer, although all grades showed a high percentage of very slight enlargements. Among the white boys and girls, who totaled 9,682, 53.2 per cent showed some degree of thyroid enlargement. Among the colored boys and girls, who totaled 373, 51.2 per cent had some degree of thyroid enlargement. Among the boys, both white and colored, who totaled 5,009, 46.5 per cent showed some degree of thyroid enlargement and among the 5,046 girls, both white and colored, 59.6 per cent showed some degree of thyroid enlargement. Dr. Keister says in the *Illinois Health News* that from these figures it appears that neither color nor sex seems to have a marked influence on the prevalence of enlarged thyroids.

Chicago

Dr. McElroy Appointed Superintendent of St. Luke's.—Dr. Jesse L. McElroy, who recently resigned as superintendent of the University Hospital, Iowa City, Iowa, has been appointed superintendent of St. Luke's Hospital, Chicago, to succeed Dr. Charles H. Pelton, who goes to Montefiore Hospital, Pittsburgh. Dr. McElroy assumed his new duties, July 15.

Typhoid in Chicago.—During the first six months of this year, there were fifty-three cases of typhoid and eight deaths, whereas in the same period last year, there were forty cases and four deaths, and in the corresponding period of 1925, 103 cases and twenty-one deaths. The Chicago Department of Health, June 30, had on record forty-six typhoid carriers in the city. The typhoid record last year was the lowest in the history of the city.

Unlicensed Practitioner Arrested.—J. B. Lescher, proprietor of the Natural Therapeutic Health Institute, 1636 West Jackson Boulevard, was arrested, July 30, it is reported, on a charge of violation of the medical practice act. Inspectors Storer and Follmer, of the state department of registration and education, are said to have discovered Lescher treating two patients for intestinal disorders. Lescher, who has no license, was locked up in the Warren Avenue police station and later released on bond. His case will be heard, August 30, before Judge Schwaba.

Promotions and Appointments at the University.—The board of trustees of the University of Chicago announce the promotion to full professorship in pathology of William H. Taliaferro, Ph.D.; to associate professorship in pathology of Maude Slye, and to associate clinical professorships at Rush Medical College of Dr. Joseph L. Baer in obstetrics and gynecology, Dr. Edward A. Oliver in dermatology, and Dr. William G. Reeder in ophthalmology. John F. Norton, Ph.D., has been appointed secretary of the department of hygiene and bacteriology, and Warder C. Allee, Ph.D., secretary of the department of zoology. Arthur H. Compton, Ph.D., professor of physics, has been granted a leave of absence from October 1 to November 10 in order that he may attend the Solday Congress.

IOWA

Personal.—Dr. Homer W. Scott has been appointed assistant professor of surgery at State University of Iowa College of Medicine, Iowa City, it is reported.——Dr. Emil C. Junger is a candidate for state representative from Monona County.——Mr. W. D. Hayes, for many years health officer of Sioux City, was elected president of the state board of health at the biennial organization meeting in Des Moines, July 20.

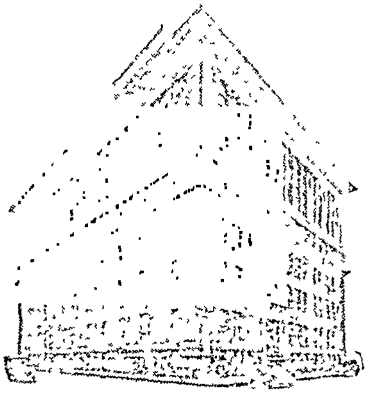
Society News.—One hundred and seventeen physicians and their families from about twenty-five towns held a picnic at Sunset Park, July 11, with the Four County District Medical Society acting as host. Dr. James H. O'Donoghue, Storm Lake, presided and Dr. William R. Jepson, Sioux City, the principal speaker, gave an address on progress in medical science; Judge F. F. Faville, Des Moines, gave an address on "The Work of a Doctor." The afternoon was spent in swimming, golfing, boating and fishing. This medical organization meets twice a year, but this was the first meeting of this kind to be held.

LOUISIANA

Personal.—Dr. Platt W. Covington, Salt Lake City, of the International Health Division of the Rockefeller Foundation, has been placed in charge of health rehabilitation work in Louisiana and Arkansas.——Miss Lodilla Ambrose, New Orleans, local correspondent for The Journal, died recently; Miss Ambrose specialized in research in medical literature, and was for years a librarian at Northwestern University.——Dr. George M. Snellings, Monroe, has been appointed a member of the state board of health from the fifth district to succeed the late Dr. Thomas E. Wright.

MASSACHUSETTS

Outpatient Department—Boston City Hospital.—This seven story building is the outpatient department of the Boston City Hospital, at East Concord Street and Harrison Avenue. Two stories were added to the old outpatient building; the interior was entirely rearranged and extensive additions were made to those parts of the old walls which were conserved. The first floor of the old building was dropped to the sidewalk level, making it possible to construct a mezzanine floor in each wing and an entrance hall which passes through the building, so that patients enter on one street and are discharged from the clinic on the other. Throughout the building, the door frames are steel, and the windows are finished with the minimum amount of wood. The building is thoroughly equipped electrically. There are three fireproof staircases and two electric passenger elevators. The large number of small rooms in the building provide as much privacy to each patient as possible. The pediatric department was placed on the first floor, so that children may be separated as quickly as possible from the other patients. Children are seen by physicians immediately on their entrance to the clinic, and if suspected of having infectious diseases are assigned to an isolation room. Every floor has a laboratory; all rooms in the heart clinic are wired to the electrocardiograph, so that one machine will suffice for the entire clinic. A central record system is used throughout the building, the records from every department being filed together. Records are delivered by carrier to the secretary's desk in the various clinic rooms, and are returned to the record room daily after the clinic is closed. The equipment of the outpatient department cost about $70,000, and the building exclusive of the site, $630,000.



MINNESOTA

All Physicians Must Register with Basic Science Board.—The secretary of the board of examiners in the basic sciences states that every physician in the state of Minnesota who desires to retain his license must register and secure a certificate from the board before Oct. 1, 1927. Applications for registration have been sent to all physicians whose names appear in the American Medical Directory under Minnesota. The secretary of the board of examiners in the basic sciences is Dr. Elexious T. Bell, 110 Anatomy Building, University of Minnesota, Minneapolis (The Journal, July 16, p. 213).

MONTANA

Citizens Fear Experimental Spotted Fever Ticks.—The residents of Pine Grove are seeking an injunction to prevent the establishment in that community of a research laboratory by the state of Montana for the purpose of investigating the prevention of Rocky Mountain spotted fever. They have instituted court proceedings, it is reported, making members of the state board of health the defendants. Dr. William F. Cogswell, secretary of the state board of health, testified, July 29, that there would be no chance for the experimentally infected ticks to escape from the proposed laboratory. The question of how fast these ticks travel is said to have enlivened the court proceedings.

NEBRASKA

Reception for Recent Graduate.—The inland village of Martinsburg gave a reception to Dr. John Joseph Melvin, a recent graduate in medicine, in view of the fact that he was the first young man in sixty years of the community's history "to rise to the level of a high profession."

Family Physicians Honored.—On the seventy-fifth birthday of Dr. Ira N. Pickett, about 250 persons of the community of Odell, where he has practiced forty-six years, gathered at his home to present to him a substantial sum in gold. Dr. Pickett is a past president of the state medical society.——A reception was tendered Dr. and Mrs. Chester H. Longacre by about 400 friends, recently, on the occasion of their leaving the village of Eagle where Dr. Longacre had practiced medicine for nineteen years.

Society News.—Dr. Harry E. Potter, Fairbury, president of the Nebraska State Medical Association, was guest of honor at the June 27 meeting of the Third Councilor District Medical Society, Table Rock. Among others, Dr. Arthur D. Dunn, Omaha, spoke on "How to Conduct Health Examinations."——The Cedar-Dakota-Dixon-Thurston-Wayne Counties Medical Society met, June 23, at Emerson; among others, Dr. Arthur E. Cook, Randolph, read a paper on "Thrombo-Angiitis Obliterans."——Dr. Frank M. Conlin, Omaha, addressed the Madison "Four Counties" Medical Society, Neligh, June 22, on "Complications of Diabetes," and Dr. Earl C. Sage, Omaha, on "Sterility of the Female."

NEW HAMPSHIRE

Personal.—Francis G. Benedict, Ph.D., director of the nutrition laboratory in Boston of the Carnegie Institution of Washington, gave an address at the University of New Hampshire, recently, on "Physiologic Research Institutions of Europe."——Dr. Herbert de Montfort Haslam, Overbrook, has been appointed health director of St. Paul's School, Concord, to succeed Dr. James H. Townsend, resigned.

Meeting of Surgical Club.—The thirtieth annual meeting of the New Hampshire Surgical Club will be at Laconia, September 19, and as usual will comprise a week-end outing and a scientific program. There are facilities at Laconia for golfing, swimming, boating, fishing and automobiling. The Laconia members of the surgical club comprise the committee of arrangements with Dr. Clifton S. Abbott, chairman. Dr. Eugene B. Eastman, Portsmouth, is president of the New Hampshire Surgical Club, and Dr. John F. Holmes, Manchester, secretary.

NEW YORK

Health at Albany.—Telegraphic reports to the U. S. Department of Commerce from sixty-seven cities with a total population of about 29 million indicate that for the week ending July 23 the highest mortality rate (18.7) was for Albany, and that the mortality rate for the group of cities as a whole was 10.5. The mortality rate for Albany for the corresponding week last year was 18, and for the group of cities, 11.6.

Dr. Fairman Honored.—About thirty members of the Orleans County Medical Society and other friends gave a dinner at Fairview Manor, near Medina, July 25, in honor of the completion of fifty years in the practice of medicine by Dr. Charles E. Fairman, Lyndonville. The president of the county medical society, Dr. Charles E. Padelford, Hollywood, presided. Among the speakers were Dr. Harry R. Trick, Buffalo, president elect of the state medical society; Dr. Joseph S. Lawrence, Albany, executive officer of the state society, and Dr. William D. Johnson, Batavia, whose subject was "A Doctor of the Old School."

Income from Dewey Estate Goes to Medical Schools.—The will of the late Dr. Charles A. Dewey showed, when probated, July 12, according to the New York Times, that the estate of nearly $1,000,000 is to be held intact as the Charles A. Dewey Fund, and that the income will go for the support of the medical schools of the University of Rochester and of Harvard University. Dr. Dewey graduated from the University of Rochester, and from the Medical School of Harvard University in 1880. In addition to the foregoing provision, which became effective through the recent deaths of a nephew and niece, the will provides a gift of $100,000 to the Rochester General Hospital as a memorial to Dr. Dewey's sister.

Society News.—Dr. Burke Diefendorf, Copake, addressed the Columbia County Medical Society, recently, on scarlet fever, and Dr. Lemuel Whittington Gorham, Albany, on pernicious anemia.——Dr. Nathan W. Soble, Rochester, read a paper before the Steuben County Medical Society, recently, on the "Chronic Intestinal Invalid," illustrated by lantern slides.——Dr. Russell L. Cecil, New York, addressed the Nassau County Medical Society, recently, on "Pneumonia with Relation to the Present Status of Specific Therapy," and Dr. Benjamin W. Seaman, Hempstead, on "Fractures of the Skull."——The Clinton County Medical Society held a testimonial dinner at its recent semiannual meeting to celebrate the seventy-fifth birthday of Dr. William U. Taylor, Mooers, and the seventieth birthday of Dr. William E. Clough, Plattsburg; among the speakers were Dr. Lyman G. Barton, Plattsburg, president of the Fourth District Medical Society; Major Albert S. Bowen, U. S. Army; Dr. Joseph S. Lawrence, executive officer of the New York State Medical Society, and Dr. John B. Wheeler, emeritus professor of surgery, University of Vermont College of Medicine, Burlington.

New York City

Gift for Radium for Hospital.—Edward S. Harkness has given $250,000 to the Memorial Hospital that additional radium may be purchased for the treatment of cancer. This will enable the hospital to increase its supply to a total of 8 Gm.

Hospital News. — The supreme court has approved the absorption of the Williamsburg Hospital by the Brooklyn Eye and Ear Hospital; the combined institution will soon move into new quarters at Greene and Carlton avenues.——The campaign for funds for new buildings for the Italian Hospital has passed the $500,000 mark.

Local Committee on Mental Hygiene.—Representatives of more than thirty agencies dealing with mental problems met recently to organize a New York City committee on mental hygiene as a subcommittee of the state committee on mental hygiene. The general object is to bring together representatives of all agencies in the city now doing mental hygiene work to determine the mental health needs and to promote the development of a well rounded hygiene program for New York City. Dr. C. Floyd Haviland was elected chairman, and Stanley P. Davies, executive secretary.

Resolutions of Respect.—The medical board of the Willard Parker Hospital adopted resolutions at a meeting, June 28, recognizing the great loss the hospital sustained in the sudden death of Dr. Abraham Zingher, who was for years a member of the board and attendant serologist to the hospital. The board recalled his personal work in popularizing the practical application of vaccination against diphtheria and scarlet fever and also his ability as a teacher in bacteriology, and the energy, sincerity and skill which he applied to his work. The board extended to his family its deepest sympathy in their affliction, hoping that the memory of his noble and useful life will in some degree assuage their loss.

OHIO

Narcotic Violation.—Dr. Charles O. Bayless, Dayton, was sentenced to sixty days in jail and fined $500, recently, it is reported, following a plea of guilty to violation of the Harrison Narcotic Law. The specific charge in the indictment was failure to keep proper records of narcotics dispensed.

Bond Issues for Hospitals.—The citizens of Cleveland will vote at the November election on a bond issue of $2,500,000 for the needs of the City Hospital.——The citizens of Springfield will vote in November on a bond issue of $1,200,000 for the purpose of improving the City Hospital.——The citizens of Ashtabula County will soon vote on a bond issue, the proceeds of which will be used to construct a county tuberculosis hospital.

Outbreaks of Infantile Paralysis. — Reports to the state department of health, August 3, indicated that an outbreak of infantile paralysis had occurred at Martins Ferry, and the chief of the division of communicable diseases was ordered to that city to make an investigation. There were said to be about twenty cases. Infantile paralysis was also reported in Cincinnati, August 1, where twelve cases had developed since July 1, two of which were in Madisonville.

Greene County's Anniversary.—The Greene County Medical Society entertained 115 members and guests of the Five County Medical Society at Xenia, June 1, at the celebration of its seventy-fifth anniversary. The guests of honor were Dr. Robert T. Morris, New York, who gave an address on "Fundamental Principles of the Fourth Era of Surgery," and Dr. Leslie L. Bigelow, Columbus, president of the state medical association, who discussed "Advances in Scientific Medicine and the Economic Status of the Profession."

Personal.—Dr. Daniel J. Kindel, chief, division of industrial hygiene, state department of health, Columbus, has resigned to become medical director of the Consolidation Coal Company at Fairmont, W. Va.; Dr. Kindel will supervise the work of the large medical staff and be responsible for the health of a large number of employees.——The colleagues of Dr. Edwin W. Mitchell gave a testimonial dinner recently to celebrate his forty-fifth year in the practice of medicine in Cincinnati.——Dr. Charles J. Griebling, Columbus, and Dr. Seth Hattery, Massillon, have been appointed members of the medical staff of the Ohio Industrial Commission.

Dr. McCampbell Retires as Dean.—After eleven years of service as dean of the College of Medicine of Ohio State University, Columbus, Dr. Eugene F. McCampbell has retired from his official connections to devote his time to private practice. Dr. McCampbell was born in Ohio; he graduated from the University of Chicago in 1906; received a Ph.D. from the school in 1911, and graduated from Rush Medical College in 1912. At various times he has held teaching positions in bacteriology at Ohio Medical University, the University of Wisconsin and Ohio State University, and for four years was the secretary of the Ohio State Board of Health. During the World War, he served in several camps in this country and in the Surgeon General's Office. His successor has not been announced.

Course in Medical Social Work.—The school of applied social sciences, Western Reserve University, Cleveland, will inaugurate in September a course in medical social work. The course will cover one year and be affiliated with the Associated Charities of Cleveland and the Jewish Social Service Bureau in order to afford field training in family case work, cooperating also with the Lakeside, Maternity, and Babies' and Children's hospitals. The students must be college graduates or have had an equivalent experience. The degree of master of science in social administration will be awarded to those who satisfactorily complete the course. Applications for admission should be addressed to Mrs. Virginia Glessner, registrar, school of applied social sciences, Western Reserve University, Cleveland. Courses similar to this one are given at the University of Chicago, Simmons College of Harvard University, Boston, and the New York School of Social Work.

RHODE ISLAND

Personal.—Dr. Charles V. Chapin, for many years health officer of Providence, received the honorary degree of doctor of laws at the two hundred and twenty-sixth commencement of Yale University.——Dr. John Champlin, Jr., Westerly, has been appointed a member of the state board of health for the unexpired term of Dr. Alexander B. Briggs, Ashaway, resigned.

SOUTH CAROLINA

Personal.—Dr. G. R. Westrope has assumed the duties of health officer for Horry County.——Dr. William M. Lester, Columbia, will be superintendent of the Children's Hospital at the state tuberculosis sanatorium which will open this month.

New Directory Shows Decrease in Number of Physicians.—In a comment on the new American Medical Directory, published by the American Medical Association and just recently off the press, the state medical journal notes that South Carolina has listed 1,309 physicians among an estimated population of 1,845,000. In 1913, it is said that the state had 1,433 among an estimated population of 1,607,745. Thus, the population has increased about 240,000, and the number of physicians has decreased 124. Other factors which make the new directory a storehouse of information are mentioned.

Society News.—At the June 20 meeting of the Ridge Medical Society, Leesville, it was voted unanimously to invite the Aiken County Medical Society to join. Dr. John G. Edwards, Edgefield, was elected president at this meeting.——Surg. Gen. Edward R. Stitt, U. S. Navy, was the guest of the Charleston County Medical Society, recently. General Stitt gave an address on "Medical Service of the U. S. Navy."——The Eastern Carolina Medical Association held its annual meeting at Myrtle Beach, July 6; among many others, Dr. Joseph H. Cannon, Charleston, spoke on "Periodic Health Examinations"; Dr. John S. Horsley, Richmond, Va., on "Diagnosis and Treatment of Cancer," and Dr. Andrew J. Crowell, Charlotte, N. C., on "Pain as a Guide to Pathologic Conditions of the Genito-Urinary Tract." Dr. Edgar A. Hines, secretary, South Carolina Medical Association, presented the cause of the Marion Sims Memorial, and introduced Dr. Cyrus Thompson of Jacksonville, N. C.

SOUTH DAKOTA

Society News —Dr James F Coupal, physician to the President, addressed the Black Hills Medical Society, Rapid City, June 24——The Sioux Valley Medical Association, at its June 29 meeting in Sioux Falls, voted to hold its future midsummer meetings in that city, Dr Gilbert G Cottam, Sioux Falls, was elected president, and Dr John H Henkin, Sioux City, Iowa, secretary

TENNESSEE

Society News—The annual picnic of the Tri-County Medical Society, Carroll, Weakley, Henry and Benton, was held at Page s Grove near McKenzie, July 12 among others, Drs Duncan Eve Jr and John Howard King, Nashville, Peter Whitman Rowland Jr, Memphis, Charles Hendley, Paris, and Roy A Douglass, Huntingdon, read papers

Health at Nashville —Telegraphic reports to the U S Department of Commerce from sixty four cities with a total population of about 29 million for the week ending July 30, indicate that the highest mortality rate (21 9) was for Nashville, and that the rate for the group of cities as a whole was 10 5 The mortality rate for Nashville for the corresponding week last year was 24 4, and for the group of cities, 10 9

Chattanooga Health Officers Resign—Dr Charles B Crittenden, health commissioner of Chattanooga, Dr James A Crabtree, Sevierville head of the bureau of child hygiene, and Dr Charles E Homan, Jr, head of the outside patients' clinic tendered their resignations to the mayor of Chattanooga, effective, September 1 G R Kavanaugh, director of sanitation, and Miss Margaret Morrison, bacteriologist, resigned, August 1 Dr Crittenden has been health officer of Chattanooga for about three years, and previously was state health commissioner According to the Nashville *Banner*, he intends to go to New York

TEXAS

Man Wanted Who Likes Dallas—Following the resignation of Dr N W Andrews as health officer of Dallas the board of health is said to be seeking for that position a local man who desires the opportunity to serve Dallas and who would not object to a salary of $4,000 Dallas has a population of about 160 000

Society News—Dr Felix P Miller, El Paso, president-elect of the State Medical Association of Texas, addressed about 500 students at the summer session of Sull Ross State Teachers' College, Alpine, July 14, on 'Relation of the Public School Teacher to Public Health '——About 100 physicians of Central Texas, accompanied by their wives, attended the Twelfth District Central Texas Medical Society's meeting in Temple, July 12 Among the speakers were Congressmen Tom Connally of Marlin and Drs Eugene V Powell, Dallas, Richard McCormick, Waco, Morris H Boerner, Austin, William B Thorning Houston, Lewis R Talley, Temple, Arthur C Scott, Jr, Temple, Howard L Cecil, Dallas, James I Robinson, Temple, and Irwin E Colgin Waco——The Smith County Medical Society met in the Blue Bonnet Room, Blackstone Hotel, Tyler, July 12, and was addressed by Dr Charles M Rosser, Dallas, on 'Goiter', Dr Alfred I Folsom, Dallas, on Modern Treatment of Stone in the Bladder', Dr Robert B Giles, Dallas, "Clinical Recognition of Coronary Obstruction" and Dr David L Bettison, Dallas, Importance of the Maxillary Sinus from a Medical and Dental Point of View"

WASHINGTON

Hospital News —St Elizabeth's Hospital, Yakima, has announced plans to construct a contagious disease building to cost about $11,000——Dr Leon G Woodford has been reelected president of the medical staff of the Providence Hospital, Everett

Graduate Medical Lectures—The University of Washington held its annual series of graduate medical lectures, July 18 22 Drs Charles L Mix, Chicago, George W Crile, Cleveland, and Charles L Scudder, Boston, were the clinicians Following the clinic, a dinner was given in honor of the clinician of the day, and on Monday evening, the annual banquet was held The University Golf Club extended its privileges to the physicians enrolled for the course and their wives The graduate medical lectureship was established by the university in 1915, with the cooperation of the King County Medical Society and the Washington State Medical Society

WYOMING

State Medical Election —At the annual meeting of the Wyoming State Medical Society, Cheyenne, June 28, Dr Archie P Kimball, Casper, was installed as president, Dr Frank A Mills, Powell, was elected president elect, Dr John L Linn, Lander, vice president, Dr Evald Olson, Lovell, treasurer, and Dr Edwin Earl Whedon, Sheridan, secretary President Kimball has appointed Dr Whedon editor A new feature of the program was a series of clinics given at the Laramie County Memorial Hospital

GENERAL

Society News—The American College of Physical Therapy will hold its sixth annual meeting at the Hotel Sherman Chicago, October 31-November 5, with three days devoted to a school of instruction one to sectional meetings, one to a joint session and one to hospital and dispensary clinics The fee for the instruction is $10, and a registration fee for nonfellows to the assembly is $5 Information will be given on request addressed to the American College of Physical Therapy, Suite 820, 30 North Michigan Avenue, Chicago

Medical Students in Summer Camps—About 5,000 medical students from certain leading colleges, where reserve officer training corps units are maintained, are in training this summer in camps at Fort Oglethorpe, Georgia, Fort Sam Houston, Texas, Fort Snelling, Minnesota, Camp Lewis, Washington, and Carlisle Barracks, Pennsylvania The instruction given is practical, supplementing the theoretical instruction given at the colleges The subjects taught in camp are map reading, personal hygiene, first aid, tent pitching, drill and the tactical employment of different components of the medical regiment The camps cover a period of six weeks, and since their establishment in 1921, the enrolment has increased from about 800 to about 5,000 At the Fort Snelling camp, the Mayo Foundation awards a cup for proficiency in military hygiene and sanitation which, this year, went to the unit from St Louis University, it was presented by Dr Henry W Meyerding, representing the foundation, July 26 This cup has been awarded annually since 1924

Medical Veterans Unite with Military Surgeons—Following the preliminary discussion during the Dallas session of the American Medical Association, the Medical Veterans of the World War voted unanimously at the annual banquet in Washington, May 18, to unite with the Association of Military Surgeons of the United States, and a committee was appointed to determine the conditions of the union All members of the former association in good standing become members of the latter without payment of dues until July 1, 1928, and they will receive the magazine of the association Thereafter, the annual dues ($3) will be the only dues charged A section is to be created in the association, to be called the Medical Veterans of the World War Section, which will have meetings, banquets and so forth, as may be determined by the president and secretary of the section All records, rolls and funds of the medical veterans are to be turned over to the secretary of the Association of Military Surgeons The union was to be effective, July 1, 1927 Col John O McReynolds, medical reserve corps, Dallas, Texas, and a recent vice president of the American Medical Association, was elected president of the section for the ensuing year and Col Arthur T McCormack, medical reserve corps, Louisville, Ky, elected secretary

American Hospital Association — Annual Meeting —The twenty-ninth convention of the American Hospital Association will be held in Minneapolis, Minn, October 10 14, under the presidency of Dr Richard G Brodrick, Oakland The association has published a preconvention number of its bulletin, devoting many pages to the arrangements for the meeting, to pictures illustrating the beauty of Minneapolis and its surroundings, and to pictures of hospitals and officers of the association The program for the meeting is also given in the bulletin Monday morning there will be a conference of the officers with the chairmen of the sections and the committees The governor of Minnesota, the mayor of Minneapolis and physicians from many parts of the country will appear on the program There will be a symposium, Thursday morning, on "Tuberculosis Sanatoriums", the speakers will be Drs Ernest S Mariette, Oak Terrace, Minn, Joseph R Morrow, Ridgewood, N J, Alquin J Davis, Farmingdale, N Y, Emmett P Boas, II, New York, Harry J Corper, Denver, Jay A Myers, of the University of Minnesota Medical School, Berthold S Pollak, Secaucus, N J, Charlotte J Garrison, R N, Denver, I Rosenfeld, New York, and

T B Kidner, New York At the same time, in Minneapolis, the American Association of Hospital Social Workers will hold its fall meeting, the American Occupational Therapy Association will hold its annual meeting, October 10-12, and the Children's Hospital Association of America will hold its annual meeting, October 12-13, on which days also the Hospital Dietetic Council will meet There will be a special train from Chicago that will stop over at Rochester, Minn, to enable the delegates to visit the Mayo Clinic, and following a luncheon, Drs William J and Charles H Mayo will address their guests Persons desiring to take advantage of this stopover privilege should get in touch with their local chairman, or the secretary of the American Hospital Association, Dr. William H Walsh, 18-20 East Division Street, Chicago

FOREIGN

India's Lowest Plague Mortality Record—Fewer cases of plague were reported in India during the first half of this year than at any time since plague was introduced into that country thirty years ago Deaths from plague during the first nineteen weeks of 1927 amounted to more than 25 000, as compared with almost 110,000 during the corresponding period of 1926 The Epidemiological Report of the League of Nations, July 15, says that in the week ending May 14, the number of plague deaths was 543, as compared to 7,467 in the corresponding week of last year Plague did not establish itself during the first half of 1927 in any new locality Plague was also less prevalent than it was last year in Siam, French Indo China and Java There were only forty cases reported in Egypt in the first five months of 1927, none at Suez, and only four cases at Fort Said during the first half of the year In Tunis, however, there were 126 cases in May, and in Senegal, 125 In the Union of South Africa, no case was reported in the four weeks ending June 11 The plague situation, the report says, is distinctly favorable in the great majority of countries

Notes from Annual British Medical Meeting—A page of abstracts of papers read the previous day before sections of the British Medical Association, which was then meeting in Edinburgh, was published in *The Scotsman* July 22 In a paper on "Treatment of Lobar Pneumonia,' Prof John Hay of the University of Liverpool is reported to have said that about seventy-five out of a hundred patients with pneumonia would survive if allowed to do so, that from ten to fifteen would probably die, and that the chances of recovery in another ten or fifteen would depend on the manner in which the case was handled Professor Hay said that, so far, no scientific evidence had been advanced in favor of the view that alcohol in its specific action was a true cardiac stimulant He is convinced that the prognosis in any particular patient was rendered graver by repeated doses of alcohol administered to prevent or counteract cardiac failure The section of forensic medicine debated the subject "Alcohol and the Motorist" Dr Godfrey Carter of Sheffield University said that for a man to drive a fast running vehicle on a public highway under the present crowded conditions while drunk was only a degree less culpable than for a drunken man to be in charge of a railway engine It is unfortunate, he said, that the word "drunk" is used in the law, as there is no statutory definition of what constituted being drunk, a better term to use in the law would be "under the influence of alcohol" Dr Carter considers that the consumption of more than a very small amount of alcohol, whether before or during motoring, is dangerous, lowering of mental alertness and obscuration of judgment must always be present when there are demonstrable signs of alcoholic indulgence Earl Russel said that the danger of a drunken person driving a motor car was almost greater than that of a drunken man flourishing a loaded revolver, and that he regretted very much that imprisonment was not imposed as a matter of course Prof Edward Mellanby, University of Sheffield, discussed "Duties of the State in Relation to the Nation's Food Supply," saying that the trend in scientific work on nutrition was to divide foods roughly into three classes (1) protective or disease preventing, (2) harmful or disease producing, and (3) neutral foods Professor Mellanby said that the problem of correct feeding was in a sense even of a more fundamental nature than that of general hygiene since, when the diet is defective, the most perfect hygiene would not prevent ill health He suggested that the ministry of health establish a board of nutrition, consisting largely of experts in nutritional research, whose duties would be, among others, the instruction of parents on diet Other subjects discussed, July 21, were 'Mental State of the Restless Naughty Child" by Dr Robert M Marshall, Glasgow, and "Pulmonary Asbestosis in Its Clinical Aspects," by Sir Thomas Oliver, Newcastle-on-Tyne The annual dinner of the British Medical Association was presided over by the president, Sir Robert W Philip and attended by about 600 ladies and gentlemen The meeting was said to be the largest gathering in the ninety odd years of the history of the association.

Deaths in Other Countries

Prof **Albrecht Kossel**, University of Heidelberg, July 5, aged 74, of cerebral hemorrhage

Government Services

Veterans' Bureau Personals

The June *U S Veterans' Bureau Medical Bulletin* notes the following changes in the personnel of the bureau Dr Charles S Adams, transferred from the regional office, Phoenix to Whipple, Ariz , Dr Wilhelm S Anderson, transferred from the regional office, Minneapolis to Fort Snelling, Minn , Dr Buell L Ashmore, appointed at Augusta, Ga , Dr Harry P Bacon, transferred from the regional office, Minneapolis to Fort Snelling, Minn , Dr James Breslin, transferred from the regional office, New York to Sunmount, N Y , Dr Herbert A Burns, transferred from the regional office, Minneapolis to Fort Snelling, Minn , Dr Calvin E Clay, transferred from Algiers, La , to Washington, D C , Dr William H Conner, transferred from St Paul, Minn , to Fort Snelling, Minn Dr Ralph E Davis, transferred from the regional office, Minneapolis to Fort Snelling Minn , Dr Sherwood Dix, transferred from Chillicothe, Ohio to Bronx, N Y Dr James Edward Dolan, transferred from the regional office, Minneapolis to Fort Snelling, Minn , Dr Alexander G Dumas, transferred from the regional office, Minneapolis to Fort Snelling, Minn , Dr Henry Terrie Floyd, transferred from Oteen, N C , to Washington, D C , Dr Irving I Gellman, transferred from Sunmount, N Y , to the New York regional office, Dr Henry V Hanson, transferred from the regional office, Minneapolis to Fort Snelling Minn , Dr Clifford E Harkey, transferred from St Paul, Minn , to Fort Snelling, Minn , Dr Charles H Harrison, resigned at Memphis, Tenn , Dr Louis C Jensen, transferred from Minneapolis to Fort Snelling, Minn , Dr Jefferson B Latta, transferred from St Paul, Minn , to Fort Snelling, Minn , Dr Frank J Lawler transferred from the regional office, Minneapolis, to Fort Snelling, Minn Dr Willis E Lewis, appointed at Tuskegee, Ala , Dr Robert D Maddox, transferred from Washington, D C , to coordination group, Areas A and B, New York City, Dr Leo M Maguire, transferred from St Paul, Minn , to Fort Snelling, Minn , Dr Lloyd L Maurer, transferred from West Haven, Conn , to Washington, D C , Dr Walter A Monnich, transferred from Minneapolis to Fort Snelling, Minn , Dr Leonidas Morris, appointed at Tuskegee, Ala , Dr George H Parmenter, transferred from St Paul, Minn , to Fort Bayard, N M , Dr George W Phillips, transferred from Minneapolis to the Detroit regional office, Dr Waldemar G Richter, reappointed at Augusta, Ga , Dr Maurice N Rosenberg, transferred from the regional office, Minneapolis to Fort Snelling, Minn , Dr Harry Rubin, transferred from Gulfport, Miss , to Palo Alto, Calif Dr Sancho P Santos, transferred from St Paul Minn , to Fort Snelling, Minn Dr Thomas J Seale, reappointed at Sheridan, Wyo , Dr Alexander W Seibert, transferred from Whipple, Ariz , to the Phoenix regional office, Dr Ellery De W Simpson, transferred from the regional office, Minneapolis to Fort Snelling, Minn , Dr William A Smith transferred from Outwood, Ky , to Memphis, Tenn , Dr George R Stalter, transferred from Central Office, Medical Service N P Division, to Gulfport, Miss , as clinical director, Dr Presley E Werlein, appointed Att Spec E E N T at Gulfport, Miss , Dr John P Howser, transferred from Cincinnati to Dallas, Texas, Dr Morse F Osborn, transferred from Columbus, Ohio, to Cincinnati, Dr Jay D Thomas, transferred from Columbus, Ohio, to Cincinnati, Dr Lucien Treadway, transferred from Des Moines, Iowa, to Detroit, Dr Gettis T Sheffield, appointed at Jackson, Miss The following resignations are reported Dr John W Baldwin, at Des Moines, Iowa, Dr Dorrell G Dickerson, at Seattle, Wash , Dr Edward J Fitzgibbon, at Boston, Mass , and Dr William Reilly, at San Francisco, Calif

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 23, 1927

The Control of Malaria in Malaya

According to Sir Ronald Ross, the Malayan campaign against malaria fever was almost the first begun, and has been the most persistent the widest, and the most successful of malaria control campaigns in British areas—perhaps in the world In 1901 Sir Malcolm Watson was appointed government surgeon at Klang in Selangor, a town of 3,576 inhabitants contained in an area of 290 acres, of which 22 acres were swamp and 85 jungle or dense growth The place was badly infested by mosquitoes and full of malaria Watson made a survey of the breeding places of these insects and found that the chief one was a swamp actually in the middle of the town The whole fever and the annual death rate stood at 300 per thousand inhabitants, as against the English death rate of 11 or 12 The swamp was drained and the work of mosquito control was begun This work from 1901 to 1905 cost about $20 000 and during the same period $30 000 was spent on malaria control at the neighboring town of Port Swettenham The cases of malaria at the hospital which served both Klang and Port Swettenham fell from 610 in 1901 to 199 69 32 and 22 in the following four years In addition, the general death rate fell to less than one fourth of its former height The work of malaria prevention in Malaya has progressed until today it has become a part of the life of the whole community In 1911 Watson was invited to Singapore to advise the health authorities on the control of malaria The result is that the death rate of Singapore has fallen since 1911 by nearly a half The whole population of Malaya has learned the value of the campaign against malaria and has become united in supporting that campaign Laws have been passed imposing on every one the duty of taking preventive measures in the home It has become a crime to neglect such precautions as the emptying of vessels containing water and the drainage of puddles or other breeding places of mosquitoes

The Ronald Ross Gate of Commemoration

A memorable ceremony took place in Calcutta, June 7, when in the presence of Sir Ronald Ross, Lord Lytton, governor of Bengal, unveiled a commemorative gate in his honor The memorial is in the form of a gateway bearing a bronze medallion of Sir Ronald in the center above the arch, while on the left is an inscription to the effect that in the small laboratory 70 yards to the southeast of the gateway, Sir Ronald Ross made his immortal discovery of the mosquito transmission of malaria To the right of the medallion is a quotation from a poem which Ross wrote when he discovered that the malarial parasite underwent development in a mosquito

> This day relenting God
> Hath placed within my hand
> A wondrous thing, and God
> Be praised at His command,
> Seeking His secret deeds
> With tears and toiling breath
> I find thy cunning seeds
> O million murdering Death!
> I know this little thing
> A myriad men will save
> O death! where is thy sting,
> Thy victory, O Grave?

The governor described Sir Ronald Ross's discovery as the greatest contribution to medical knowledge since the days of Pasteur

Sir Ronald Ross, who was obviously deeply moved, said "There are some moments in a man's lifetime when he is so overcome with emotion that he can hardly speak, and this is such a moment" He went on to say that this was the proudest moment of his life It was but rarely that men of science received such recognition during their lifetime He felt that he ought to be dead, but there was a good deal of life still in him He recalled the names of a few of the many who were associated with him in research work in malaria Alphonse Laveran, his master, discovered the parasite of malaria, a man whose genius was typical of the great nation from which he sprang Sir Patrick Manson, from first to last, was his sponsor and the man who put him on to the right trail He also referred to the subsequent work in India by Christophers, James and Bentley

The Health of London

Among the problems relating to London's health which are the subject of comment in the annual report of Dr F N Kay Menzies, the health officer, are the steady fall in the birth rate, the disastrous spread of dental disease and the menace of smallpox resulting from the decline of vaccination The outstanding features of the London statistics for 1926 are as follows The birth rate fell to 17 1 per thousand of the population, the lowest figure recorded for any normal year In 1925 the rate was 17 9, and in 1924 it was 18 6 The marriage rate was again 17 2 per thousand, as in the two preceding years At 11 6 the death rate was slightly below that for 1925, but higher than in 1923, when the lowest figure was recorded Deaths of infants per thousand births were 64, the lowest rate except that for 1923 On the subject of the dwindling birth rate Dr Menzies notes the increased burden of rent and rates on poor parents with more than two children Such families add to their earnings by taking in lodgers, and he suggests that municipal authorities might facilitate this by providing houses specially designed for large families, and that, in order to overcome the objection of landlords to children, some deduction should be allowed from the rates in respect of premises occupied by parents with children In regard to the school medical service it is again emphasized that, increasingly valuable as are the results being attained, much of the work is remedial rather than preventive In London last year there were five cases of smallpox and one death In the whole of England and Wales there were no fewer than 10,141 cases (nearly double the number for 1925), of which eleven were fatal In London elementary schools, 330,395 children were medically inspected by the school medical service, and 103 717 were referred for treatment for various kinds of ailment Only 11,391 children, or 6 2 per cent of the number inspected, were found to be undernourished This result is remarkable, in view of the widespread unemployment It is a testimony to the efficiency of the measures introduced of late years to safeguard the health and well being of our children A large proportion of the children found to be defective were suffering from dental disease No diminution in the incidence of dental caries is taking place All that the medical service has been able to accomplish is to keep its ravages to some extent in check during school life The widespread and, indeed, almost universal incidence of caries is described as nothing less than a calamity that has overtaken the human race Viewing it from a broad biologic standpoint, one must be impressed with the fact that the mammalian teeth inherited by man from progenitors who needed instruments to wrest a precarious livelihood by gnawing fibrous roots or tearing raw flesh are no longer needed for this work The earlier inventions by man, such as the art of cooking and the later developments of civilized customs, have resulted in an abundance of foods that require scarcely any mastication The teeth have lost their survival value. Although the teeth of puppies may be rendered badly shaped and imperfect in structure by repeating in them the usual dietetic regimen of human babies, it is impossible to induce in them dental caries at will. One cannot help thinking that modern man has lost an hereditary factor, "resistance to caries," much in the same way as certain kinds of wheat have lost the hereditary factor, "resistance to rust." No other organ in the body shows such a universal tendency to decay as do human teeth. Only by constant and unremitting care can the ravages of dental decay be kept within bounds. The school medical service is keeping the teeth of children under constant supervision and inculcating the necessity for dental cleanliness. What is equally needed is instruction of the mothers on the feeding of infants in order to insure that when the teeth are being laid down in the jaws during babyhood they should be strong.

Summing up, the records show an improvement in the health of the children during school life and an intensification of the activities of children's care in the two years immediately preceding the school leaving age. The school medical service is a receiver of damaged goods and spends most of its time and energies in patching them up. What is required is intensification of social effort directed to the care of the infant in arms and the toddler before school age, so that children shall come to school with constitutions unimpaired and with bodies attuned to receive mental, moral and physical education.

The National Association for the Prevention of Tuberculosis

The conference of the National Association for the Prevention of Tuberculosis was opened by Mr. Neville Chamberlain, minister of health. He said that 35,000 deaths from tuberculosis had taken place last year. Fifty years ago the death rate from all forms of tuberculosis was 287 per hundred thousand; last year the rate had fallen to 96. What was the cause of this great reduction? It had been shown by Sir Archdall Reid and others that by a slow process partial immunity was acquired by nations. Possibly the same process was still going on, but no proof was available and he preferred to ascribe the drop in tuberculosis mortality to two other factors: (*a*) improvement in the social surroundings of the people, and (*b*) special measures. Among the conditions that affected the health of the people, one of the most dominating was housing.

Sir John Robertson, health officer for Birmingham, said that reduction in the number of new cases was far more important than the discovery of any panacea. He submitted statistics of incidence of the disease both for England and Wales and for the United States which showed that the influences producing a high mortality among males in both countries were very similar. There was a high incidence among males between the ages of 20 and 45, the mortality during these years being somewhat uniform, while among females the highest rate was in the period of 20 to 25, after which it rapidly declined until 50 years was reached. For each of the age groups there had been during the past twenty-five years a large reduction in mortality, except in the age groups for females between 15 and 25, in which there had been a slight increase. He had been particularly struck by the greatly reduced incidence of tuberculous adenitis, although no statistics as to this were available. The three outstanding events which had probably exerted the greatest influence in reducing the incidence of, and mortality from, tuberculosis were the introduction of compulsory general education in 1870, the discovery of the tubercle bacillus and the subsequent methods of immunization, and the establishment of antituberculosis schemes with their tuberculosis officers, sanatoriums, hospitals and dispensaries. Of all these factors he believed that better education was the greatest. A modicum of general education made the people dissatisfied with their unhygienic conditions of life and with the amount and cost of the food supply, nor could any one doubt that the exercise of good general intelligence was perhaps the greatest asset in the campaign against tuberculosis. In a large poor-class district in Birmingham, where ignorance prevailed, the rate of mortality from the disease was four times what it was in another area inhabited by intelligent artisans. The most effective method in the campaign was the increase of knowledge of healthy living. He urged the paramount importance of suitable and adequate nutrition and of an abundance of fresh air and sunlight. A great deal remained to be done in regard to the question of the feeding of the people, although a great improvement had taken place in the last seventy or eighty years in amount and quality of food available for the laboring classes. People still in every class of society risked their health in the dull light and stagnant air of badly constructed workplaces or dwellings. Specific immunity did not seem to be of value when dealing with the whole subject of tuberculosis, for those who had now contracted tuberculosis must at some time have received some tubercle bacilli which ought to have protected them against subsequent disease. What was needed above all was a better general education, by which alone a community was capable of grasping the meaning and value of knowledge directed to such a special subject as healthy living. The better the education of the masses, the better they were able to appreciate the reasons for adopting those measures which maintain health. Special education in the prevention of tuberculosis was also essential. The antituberculosis dispensary as a means of spreading knowledge was probably the most important weapon in the campaign against tuberculosis.

PARIS

(From Our Regular Correspondent)

July 13, 1927.

The Use of the Whipple Method

The treatment of pernicious anemia by the Whipple method of administration of liver was recently discussed before the Société des médecins des hôpitaux de Paris. MM. Rathery and Maximin reported several cases in which patients who had been treated for long periods, but in vain, by the ordinary methods were rapidly relieved of all their symptoms by the liver method. The treatment consisted in the daily ingestion of 250 Gm of calves' liver. The remarkable results were confirmed by M. Crouzon. In one of his patients who suffered with subacute combined sclerosis, associated with pernicious anemia, the red corpuscles increased within three months from 1,700,000 to 4,200,000. M. Rist obtained the same results in a man, aged 70, suffering from prostatic disease and pernicious anemia. M. Labbé recommended long observation, since it might be found that the treatment had to be kept up without interruption lest quick relapses occur.

The New Social Insurance Law

The senate has finally passed the new social insurance law after three weeks of debate, and in spite of objections raised by the medical societies and by financial experts. Some estimate that ten billion francs will be required to put the law in operation. This will cause an increase in the price of industrial products, since the merchants are determined to increase prices to cover the new taxes they must pay, and the labor unions will demand increases in pay to compensate for the reductions in salaries that the act entails. From many angles, the passage of the bill appears to be a catastrophe just at the time when the country was beginning to reestablish itself financially. The senate declares that it is under obligations to carry out promises made long since to the working classes. The unions, however, have declared that they do not have any interest or confidence in the law, that they object to the reductions in salaries, and that the mutual aid societies, which have been in operation for fifty years, assured them the same results with less outlay. The chamber of deputies passed the bill almost without discussion, six years ago. In the meantime, however, the senate has made important changes in the bill, which makes it necessary to submit it again to the lower house.

Danger in the Treatment of Tuberculous Adenitis by Roentgen Rays

Before the Société médicale of Tunis, MM. Cassute and Hayat reported recently several cases that suggest that the treatment of tuberculous adenitis by roentgen rays presents serious risks. In a woman large cervical adenopathies disappeared entirely after three sittings. At that time the lungs were intact. A few days later, symptoms of a grave febrile infection appeared and at the end of two months there was acute infiltration of the two apexes, which soon ended in death. A child in whom an ordinary cervical adenitis disappeared after a few roentgenologic treatments presented, a few weeks later, frank signs of tuberculous meningitis and soon died in convulsions. MM. Cassute and Hayat think that these risks should be taken into consideration.

A Significant Type of Ball Organized by the Medical Students

For more than a century, it has been the custom for the medical students of Paris to give a ball each year, on the evening of the day on which the competitive examination for admission to hospital internship is held. The old Bullier dance hall, celebrated in the annals of "la vie bohémienne," is the usual stamping ground. The students of the Ecole des Beaux-Arts, who also give a similar ball, have for a number of years had the habit of making each ball the occasion for studying and depicting by means of suitable costumes some particular epoch of history: the Egyptian epoch, the Greek epoch, the middle ages. The medical students decided this year to adopt a similar program but sought to keep the festival strictly within the realms of medicine. They chose, therefore, as the theme for the *bal de l'internat,* this year, the battle of the blood corpuscles. Some of the dancers wore costumes representing the leukocytes; others depicted by their reddish garb the erythrocytes. The micro-organisms were represented by rows of streptococci, constellations of staphylococci, and serpentine chains of *Spirochaeta pallida.* To make the symbolism even more realistic, pursuits and battles between the joyous dancers typifying the various elements were inaugurated. Especially, the phagocytosis going on between the micro-organisms and the leukocytes was depicted in a most harrowing manner.

Heliotherapy in High Altitudes

On his tours of inspection of institutions for heliotherapy of tuberculosis, Dr. Armand-Delille discovered that patients with peritoneal tuberculosis and adenitis recover here in less than six months, without surgical intervention. Articular lesions are cured in from twelve to eighteen months, whereas these patients would have dragged out many years in the ordinary hospitals. The patients register considerable gains in weight, and the general health becomes better. Not only do the fistulas dry up but (which is more significant) osteoarthritis is cured without ankylosis, with return of articular movement, and the symptoms of Pott's disease disappear, followed by a return of suppleness to the spinal column. In conclusion, Armand-Delille expressed the hope that further sanatoriums for heliotherapy might be erected at the beautiful resorts located in the high table-lands of France in the Alps and the Pyrenees.

Compulsory Notification of Tuberculosis

Heretofore, notification of tuberculosis has not been compulsory, because considerations of a social nature have prevailed over sound judgment. The publication of a case of tuberculosis in a family makes it more difficult for the children in that family to marry. Furthermore, notification of a case of tuberculosis requires disinfection of the dwelling by the municipal authorities, which is not always carried out in a delicate manner, the supervision of all the members of the patient's household, and the isolation of the patient. The chamber of deputies has just approved an act making the notification of tuberculosis compulsory in case of the death of the tuberculous patient. In such event, the disinfection of the dwelling, which may be of questionable value as long as the patient is living in it and infecting it continuously, is absolutely necessary, especially if the dwelling is to be vacated soon and to receive new occupants.

GENEVA

(From Our Regular Correspondent)

July 12, 1927.

Psychotherapy

A recent meeting of the Geneva Medical Society was devoted to the discussion of psychotherapy. Introducing the subject, Professor Claparede questioned whether or not psychotherapy is a scientific method and whether or not the general practitioner makes sufficient use of it.

The part played by the physician does not stop with the treatment of bodily disorders. He must reconstruct the personality disturbed by neuroses, and Claparede has been led to study pedagogy because this branch of learning is to mental conditions what prophylaxis is to disease. Psychology should have a place in the medical curriculum.

General psychotherapy was discussed by Dr. Redalie, who pointed out that psychotherapy was an ensemble of many elements. The reputation and appearance of a physician, and the influence of the consultation room are important factors in psychotherapy and should not be overlooked. Confidence and sympathy are essential to every patient. Hypodermic administration of drugs is often a useful adjuvant in the treatment of neuroses, but is not by itself sufficient. Occupational therapy is of capital importance; it interests the patient and prevents concentration of his mind on his own troubles. The form of work must be carefully chosen and distributed with care; in severe cases manual work is to be preferred.

Dr. Odier pointed out that a distinction should be made between suggestion and hypnosis. Suggestion comprises three phases; namely, the introduction, acceptation and realization. Acceptation is the most important phase. One must be a good "suggester" in order to act on the patient's affectivity in such a way that he will not be distrustful. Suggestion is often illusory in cases of impulses, doubts or perversions, but its results are brilliant in insomnia, fear, various forms of tics, exophthalmic goiter, enuresis, enteritis and spasms. Suggestibility depends on the patient rather than on the disease, and an attempt at suggestion therapy will never result in untoward effects. Suggestion is a scientific procedure which should be resorted to in everyday medical practice.

Dr. deSaussure remarked that psychoanalysis should be employed only by a specialist. It requires much time and when once begun should not be interrupted, as this entails very serious results. Hence this therapeutic procedure is indicated only in certain selected cases or in those in which other treatments have failed. Obsessions and doubts enter into its domain.

The concluding address was made by Dr. Schnyder, who said that the ancient magicians were the first psychotherapeutists; medicine should attempt to domesticate the miracle for the benefit of patients. Neuropathic subjects are more or less suggestible, and by suggestion one does away with their symptoms and mental disturbances but the patients' personality remains unchanged. Results, therefore, are fragmentary; the façade is demolished but the foundations remain intact. Psychotherapy should transform the subject and better adapt him for life. Rational psychotherapy and analysis tend to make the patient a collaborator, because they act on his reason and judgment, or else on the subconscious. Education of the will is part of rational psychotherapy; reasonable motives should be fortified. Psychoanalysis is valuable in certain cases, but must be handled with great caution. It should above all be pedagogic and not doctrinaire; it should utilize all our knowledge in the application of the treatments; it should be applied to the personality, not merely to the symptoms. The psychotherapy of Dubois is an excellent basis for an integral cure. When making his diagnosis the physician must not neglect the psychic factors; persuasion and encouragement are always helpful in bringing about recovery. Psychotherapy must always be educational in the case of adults and still more so in the case of children.

ITALY

(From Our Regular Correspondent)

May 31, 1927.

Study Tour for Physicians

The fifth study tour of Italian health resorts, for physicians, organized by the Ente nazionale industrie turistiche, for the purpose of giving Italian physicians a first-hand knowledge of our watering places and seaside resorts, will be conducted from June 27 to July 4. The tour will begin at Riva del Garda and end at Domodossola, some taking the special train and some traveling by automobile. The resorts to be visited on the way are Riva, Arco, Terme di Comano, Rabbi, Peco, Casino Boaria, San Pellegrino, Fonte Bracca and Bognanco. At each of the resorts an illustrated medical lecture will be held, following which the buildings and equipment will be inspected.

Competitive Prize Offerings

The Royal Academy of Science in Bologna has announced the tenth international contest for the biennial prize of $180 established by its corresponding member Professor De Cyon. Any of a list of subjects proposed by De Cyon may be chosen, but articles dealing with cardiac functions, functions of the labyrinth, the thyroid, the pituitary body, or the pineal gland, will be preferred. The contest closes, March 1, 1929.

Demographic Problems in Relation to Public Health

In a discourse before the chamber of deputies, Premier Mussolini cited statistical data furnished by Professor Messea, the director general of the public health service. Pellagra, which had been a heavy burden on the Italian people for the past forty years, had almost disappeared, for, in 1922, there were only 198 deaths and, in 1926, only 108 deaths, from that cause; but tuberculosis was still causing a large number of deaths (52,293 in 1922 and 59,000 in 1925). The mortality from malignant tumors is especially high. In general, the mortality from malaria is on the decrease. In 1922 there were 4,085 deaths from malaria, but in 1925 the number was reduced to 3,588. The total number of deaths from alcoholism in 1925 was 1,315. The government has closed 25,000 places where alcoholic beverages were dispensed, and is planning to reduce the number still further. As a step forward in race hygiene, the Opera nazionale per la protezione della maternità e dell'infanzia, which numbers at present 5,700 institutions, was founded. To finance the undertaking, recourse was had, among other measures, to a tax on unmarried persons, which brings in nearly three million dollars each year. A further tax on childless marriages is being considered.

The birth rate has decreased from 38 per thousand during the period from 1881 to 1885 to 27 per thousand in 1926. The premier expressed the hope that this tendency might be checked and that the birth rate might rise again, for he held that Italy should increase its population up to at least 60,000,000 inhabitants.

Progress in Social Medicine

Questions of social medicine are interesting the national government. The state plans: (1) to improve the present form of accident insurance; (2) to improve and extend maternity insurance; (3) to provide insurance against industrial diseases and tuberculosis, as a beginning of a general system of insurance against all forms of illness; (4) to perfect insurance against involuntary unemployment, and (5) to institute special forms of insurance for young workingmen.

In addition, the general regulations with regard to the hygiene of labor, which go into effect, July 26, 1927, contain provisions relative to the inhabitability of rural dwellings and with regard to places that are prohibited as sleeping rooms for workmen, whether temporary or permanent. Hygienic provisions are also established with reference to stables, the disposition of manure, the construction of cesspools in rural districts, and the acquisition and distribution of drinking water for the rural populations.

POLAND

(From Our Regular Correspondent)

WARSAW, June 15, 1927.

Fourth International Congress of Military Medicine and Pharmacy

This year, the Fourth International Congress of Military Medicine and Pharmacy was held at Warsaw. The first congress was held at Brussels in 1921 on the initiative of Belgium, and the second and third were held in Rome and in Paris, respectively. This time Poland organized a meeting, important from social, political and medical points of view, because of the situation of Warsaw in the heart of Central Europe, and instructive to a high degree because of the important work which was reported there. Most of all, this medical military meeting exemplified in a brilliant fashion the perfect organization of Poland. The aid which the government of Poland gave to all the receptions contributed to the success of the congress, at which thirty-six nations were represented. Each report was the origin of conclusions which were transmitted to all governments:

FIRST QUESTION: EVACUATION OF THE WOUNDED IN WAR

1. In war, tactical conditions, the nature of the terrain and bad weather take on such importance that it would be impossible and harmful to try to formulate a precise scheme of action.

2. Flexibility in methods of treatment becomes a necessity. All means of evacuation are to be utilized, whether according to regulations or improvised—ambulances or trucks, motorized or horse drawn.

3. Medicomilitary tactics not only ought to serve the combat units but also should conserve the reserve forces.

4. Aviation is becoming of the greatest importance in evacuation of the wounded in war and is going to constitute an indispensable aid in the solution to this problem. The organization of medical aviation ought to be studied in time of peace through the adaptation of civilian transport to medical purposes. These means of transportation over long distances should assume an important rôle in mountain warfare.

5 It is more and more indispensable that the directors of the medical service and their assistants be well informed on the problems offered under war conditions Only profound knowledge constantly reinforced can make them acquainted with the different emergencies that arise

SECOND QUESTION THE TREATMENT OF HEAD WOUNDS AND THEIR SEQUELAE

1 War experience has shown that among the sequelae of head wounds are epilepsy, psychoses and neuroses, developing in predisposed individuals

2 This class of subjects ought to be discharged from the army, even during war, for the good of the service

3 The most favorable soil in which sequelae of skull injuries can develop is found in those wounded who have developed infection and the most grave sequelae are in those who have undergone prolonged suppuration It is necessary to utilize during war, methods of treatment which permit healing of wounds by first intention

4 Among the sequelae of skull injuries, epilepsy is frequent and serious Research on the pathology of this syndrome should be made

THIRD QUESTION ETIOLOGY AND PROPHYLAXIS OF GRIP

1 The lack of knowledge of specific diagnostic bacteriology in addition to frequent uncertainty in clinical diagnosis of grip renders difficult the institution of prophylactic measures Exchange of views on this question whenever opportunity offers would be desirable

2 Grip seems to be due to a filtrable virus which is found particularly in the rhinopharyngeal mucus and in the products of expectoration This virus aids the growth of numerous organisms and in particular those which provoke complications

3 Direct transmission of grip by coughing is the almost exclusive means of dissemination of the malady However, the contagion can be spread by indirect means

4 In the army, detection of the infection is not always possible Isolation rooms are most useful Among the numerous complementary measures, useful under various conditions, are periodic visits to the infirmary, prompt removal of each sick person, the spacing of beds in barracks, and protection of effectives

5 In the hospital, strict isolation of all sick persons who present complications is imperative The employment of vaccines in the struggle against infectious complications of grip apparently should continue to receive attention The medical personnel and all who are engaged in the treatment of patients with grip should protect their mouths, noses and eyes by masks

FOURTH QUESTION THE ARSPHENAMINES

1 Chemical methods do not permit sufficiently accurate valuation of the relative toxicity of arsphenamines and neoarsphenamines Continued research in this field is recommended

2 All neoarsphenamines proposed for medical usage ought to have a standard content of arsenic

3 It is recommended that studies be pursued in the possibility of evaluating the relative toxicity of these products through the employment of physical methods

4 The method of performing toxicologic experiments on animals (rabbit, mouse and rat) is judged necessary The elaborate methods of the commission on hygiene of the League of Nations are available

5 Chemical examination remains as a method by which the manufacture of these products can be controlled

6 The action of arsphenamine on experimental trypanosomiasis ought to be studied The action should be designated as "experimental trypanocide activity" and not as "therapeutic activity"

Fifth Congress

In the general assembly the congress decided to accept the invitation of the British government to hold the fifth congress in London in 1929 The following questions have been chosen as the order of the day

1 Evacuation by Water and by Air Liaison of Medical Services of the Army and Navy—Great Britain and France

2 Tropical Fevers of Short Duration—Great Britain and Netherlands

3 Blood Vessel Wounds and Their Sequelae—Great Britain and Belgium

4 Physical and Chemical Analysis of the Glassware and the Articles Made of Rubber Utilized in the Sanitary Service—Great Britain and Spain

5 Condition of the Teeth and the Physical Aptitude for Different Military Services—Great Britain and Cuba

New International Bulletin

It has been decided to found an International Bulletin of the International Congress of Military Medicine and Pharmacy, which will be published in French and in English under the supervision of the *Archives medicales belges* The permanent committee will appoint for this work an editorial committee, on which will appear one member from each nation.

BUENOS AIRES

(From Our Regular Correspondent)

June 25, 1927.

Child Welfare Conference

Reference was made in a previous letter (The Journal, July 30) to the Child Welfare Conference arranged by the League of Nations at Montevideo The meeting was held, June 6, and was attended by many prominent pediatricians and sanitarians It was decided to carry out a survey in urban and rural districts with respectively high or low infant death rates in Argentina, Brazil and Uruguay The result of such studies will be published and made the subject of a thorough criticism before the next conference is held

Trachoma

The considerable spread of trachoma in some areas of the country, as Santiago del Estero, has been recognized for some time by the national health department, which has organized a number of trachoma dispensaries Some ophthalmologists, however, have recently expressed the opinion that the disease did not seem to be actual trachoma A board including in its membership Professor Fuchs and Drs Ferro, Ibañez Puigari and Bernasconi Cramer has just stated categorically that the cases are typical of trachomatous conjunctivitis, although serious complications are uncommon

Publications of the Argentine Medical Association

The Argentine Medical Association supports four medical journals at an annual cost of from 42,155 pesos (about $18 000 in 1925) to 36,117 pesos (about $15,400 in 1926) They are the *Revista de la Asociacion Médica Argentina, Revista de Medicina Interna y Tisiologia, Revista Argentina de Biologia* and *Revista de Especialidades* They published last year 227 different papers by 337 authors, embodying the transactions at forty-six meetings of the eleven constituent societies

Lectures at Buenos Aires

After the Montevideo meeting, Drs Madsen, Rajchmann and Saiki visited Buenos Aires hospitals and laboratories and inspected public welfare and health activities Dr. Madsen gave a lecture before the Academy of Medicine on stational changes in epidemics, another before the Argentine Medical Association on standardization of biologic products, and finally one on whooping cough at the medical school.

Rajchmann spoke on the health agencies of the League of Nations and Saiki described the work of the Nutrition Laboratory under his direction at Tokyo. With diets deficient in vitamin A, he has seen the development of stones in the urinary bladder, kidneys and gallbladder, as well as hyperkeratosis and gastric carcinoma in white rats. At the same time he exhibited specimens of the calculi, sections and films of his experiments. Professor Fuchs of Vienna has given a series of lectures on subjects connected with ophthalmology before the Argentine Medical Association, the Buenos Aires Medical School and the Academy of Medicine.

Prohibitive Tax on Physicians

San Juan, a province whose previous and present governors (F. Cantoni and A. Cantoni) are physicians, has placed on physicians a practically prohibitive professional tax of 5,000 pesos (about $2,100), unless the practitioner renders free services for a certain number of hours at a hospital or dispensary. Despite general protests on the part of the medical profession, the law has not been revoked. The provisions have, however, been attacked before the courts as unconstitutional and a decision is now pending.

Personal

Dr. José Moreno, professor of therapeutics in the Buenos Aires Medical School, has been appointed superintendent and physician-in-chief of the Juan A. Fernández Hospital.——Dr. Juan V. Bafico has been made director of the morgue.——Dr. C. Robertson Lavalle heads the list submitted to fill the vacant chair of surgical pathology.

Deaths

The Buenos Aires Medical School has just lost by death three of its retired professors: Drs. Justiniano Ledesma, of therapeutics, F. Sicardi, of clinical medicine, and J. Esteves, of clinical neurology; its professor of gynecology, Dr. J. F. Molinari, and assistant professor of clinical surgery, Dr. A. T. Celesia. Another regretted death is that of Dr. Pedro Solanet, who after a brilliant medical debut turned to business and politics, having completed recently a term as lieutenant governor of Buenos Aires province.

BERLIN

(From Our Regular Correspondent)

July 15, 1927.

West German Institutes for Research on Tuberculosis and Rheumatism

In order to promote cooperation in solving problems relating to tuberculosis, the antituberculosis organizations of western Germany have founded the West German Institute for Tuberculosis Research with its seat in Düsseldorf. A rheumatism research institute has been founded in Aix-la-Chapelle under the same conditions and with a similar purpose. The erection of a special laboratory for the Rheumatic Research Institute is planned.

Russian Society of Liberty Men at Berlin

In return for the hospitality extended to German scientists at the celebration of the two hundredth anniversary of the Russian Academy of Science, the German government recently invited a large number of Russian scientists to present reports of their researches. The opening lecture, given by Professor Semaschko of Moscow, was concerned with his five years' experience in public hygiene. His public hygiene institute is connected with a special hospital for the treatment of occupational diseases. As a result of five years' work, smallpox is disappearing in consequence of compulsory vaccination. Other diseases, such as cholera and typhoid, are decreasing, and, as they go, the mortality falls. The total mortality for 1913 was 27.3, as against 23.7 for 1924. Infant mortality has decreased still more. At the same time, the birth rate has not diminished in spite of the liberal legislation on artificial abortion. The number of births is estimated at 43.8 per thousand of population in 1913, and 43.6 in 1924. The increase of births over deaths was 16.5 in 1913, and 21.5 in 1925.

Professor Feodoroff delivered a lecture on the surgical treatment of renal calculus in the last fifty years. In his opinion, operation is not always indicated. He knows patients with renal calculus who have been without symptoms for seventeen, thirty and thirty-five years.

Professor Palladin of Charkow lectured on the biochemistry of the brain under the influence of hunger; the weight of the cerebrum remains nearly constant, but the composition does not. The water content apparently increases. The decomposition of albumin, characterized by the fact that nitrogen can no longer be precipitated, increases only in the white substance, not in the gray. He found that four different portions of the human brain; namely, the cortical motor area, the sensory area, the association area and the visual center, all contain different amounts of cholesterol and unsaturated phosphatides and lecithins. To find out whether or not, in the absence of disturbances such as poison, there exists a difference between the chemistry of the resting and that of the working brain, Palladin investigated the influence of light on the visual apparatus. He closed together the eyelids of cats. On examination, the visual areas of the brains of these animals showed considerable diminution of the splitting of albumin (up to 30 per cent). On removal of the closure, so that the influence of light again was felt, the metabolism of the visual paths returned to normal in a few minutes. There is here a direct connection between function and metabolism. Concerning changes in vitamin deficiency diseases Palladin found by examining the brains of pigeons and guinea-pigs that there are signs of irritation of the nervous system in multiple neuritis but not in scurvy. In multiple neuritis, Palladin found decrease of albuminous nitrogen, increase of creatine above normal, and entirely different values from those present in hunger. The water content increased in scurvy, but the splitting of albumin remained unchanged. These examinations make a promising beginning for a study of the chemical dynamics of cerebral function.

Abriskosow, professor of pathologic anatomy in Moscow, Professor Koltzow, director of the institute of experimental biology in Moscow, and Professor Lasarew, director of the institute of biophysics, also delivered addresses.

Marriages

Philip Showalter Hench, Rochester, Minn., to Miss Mary Kahler, July 14.

Roy M. Montfort to Miss Harriette E. Smith, both of Danville, Ill., July 6.

Kenneth Norman Petri to Miss Esther Hoeflin, both of Washington, Ill., June 23.

Walter Grant Bernard, Detroit, to Miss Jessie A. Paul of Sarnia, Ont., Canada, June 29.

Constantin L. A. Oden, Muskegon, Mich., to Miss Armida Johnson of Maywood, Ill., July 28.

Archibald McKay Fraser, Boston, to Miss Marie Claire Karle of Brookline, Mass., recently.

Nelson Hole Chestnut, Mason City, Ill., to Miss Mildred Holland of New Holland, July 19.

Welles Adams Standish, Hartford, Conn., to Miss Rosamond Tobin of Evanston, Ill., June 18.

Herbert D. Crall, of Los Gatos, Calif., to Mrs. Leonora Shiels Woolrich of San Francisco, June 24.

Clifford Veryl Morgan, University Place, Neb., to Miss Anna Marie Herrmann of Cincinnati, July 20.

Deaths

Leonard Wood ⊕ Governor General of the Philippine Islands, died at the Peter Bent Brigham Hospital, Boston, August 7, following an operation, aged 66. General Wood had been in poor health for some months, having undergone an operation for hernia in Manila recently; he was injured on board ship while en route to the United States and was suffering from a recurrence of a condition for which he was operated on many years ago. General Wood graduated from Harvard University Medical School in 1884, and served an internship at the Boston City Hospital. He practiced medicine in Boston and was appointed assistant surgeon in the medical corps of the army in 1886. While still serving as a medical officer in the Lawton Expedition against the Indians in 1886, he distinguished himself also as a line officer and was awarded the Congressional Medal of Honor. He commanded the regiment of Rough Riders in the Spanish-American War, and for its achievement at San Juan and Las Guasimas was promoted to Brigadier General of U. S. Volunteers. After the war, General Wood was appointed military governor of the island of Cuba, where he achieved renown and greatly encouraged the special commission appointed to investigate the method of transmission of yellow fever. He was promoted to Major General of the Volunteers, was commissioned Brigadier General in the regular army in 1901 and Major General in 1903. He served in the Philippine Islands as governor of the Moro province from 1903 to 1906 and as commanding general of the Philippine Division until 1908, when he returned to the United States to command the Department of the East until appointed special ambassador to the Argentine Republic in 1910. General Wood was partly responsible for the creation of the general staff of the army and served as its first chief from 1910 to 1914. He then returned to command the Department of the East and later was assigned to command the Southeastern Department. Forseeing the trend of events in 1916, he originated the so-called Plattsburg plan of training reserve officers and during the World War trained the eighty-ninth division of the National Army, the tenth division of the regular army and various special regiments and battalions. He was in command of the central department with headquarters at Chicago from 1919 to 1921, then was made chairman of a special commission to the Philippine Islands and then governor general. General Wood was retired from active army service at his own request in 1921. He was a candidate of the Republican Party for President of the United States, was honored by universities in this country and abroad, was Grand Officer of the Legion of Honor of France, Grand Officer of the Rising Sun of Japan, and was similarly honored by other countries. His life was devoted to the service of his country.

Charles Ira Redfield ⊕ Middletown, N. Y.; University of Pennsylvania School of Medicine, Philadelphia, 1894; formerly health officer of Middletown; at one time member and president of the board of education; at various times on the staffs of the Middletown (N. Y.) Sanatorium, and the Municipal Sanatorium, Otisville; for twenty years on the staff of the Thrall Hospital; aged 54; died, July 16, of cirrhosis of the liver.

Albert Charles Kubicek ⊕ Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1899; University of Illinois College of Medicine, Chicago, 1901; formerly professor of surgery and surgical anatomy at Bennett Medical College; on the staff of the Garfield Park Hospital, and formerly on the staff of Cook County Hospital; aged 50; died, July 24, of a self-inflicted bullet wound, while suffering from pneumonia.

John Henry Voje ⊕ Oconomowoc, Wis.; Chicago Medical College, 1876; University of Leipzig, Germany, 1884; formerly medical director and proprietor of the Waldheim Park Sanatorium, now known as the Summit Hospital; aged 74; died, July 21, at the Columbia Hospital, Milwaukee, following an operation for hypertrophy of the prostate and hydronephrosis.

John Covert Boyd ⊕ Captain, U. S. Navy, retired, Washington, D. C.; Medical Department of the University of the City of New York, 1872; was appointed medical director with the rank of captain in 1903, and retired on his own application after thirty years' service in 1911; aged 77; died, in July, at London, England, of angina pectoris.

Joseph M. Spellissy, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1890; member of the Medical Society of the State of Pennsylvania; on the staffs of the Pennsylvania Hospital, St. Edmond's Home for Crippled Children, and the St. Joseph's Hospital, where he died, July 27, of arteriosclerosis, aged 60.

Roy Chappell Seamans, Batavia, N. Y.; Syracuse University College of Medicine, 1911; member of the Medical Society of the State of New York; on the staffs of St. Jerome's Hospital, and the Woman's Hospital, also known as the Batavia Hospital, where he died, July 22, following a cholecystectomy, aged 44.

Albert Gallatin Franklin ⊕ Major, M. C., U. S. Army, San Antonio, Texas; University College of Medicine, Richmond, 1897; served during the World War; appointed a major in the regular army medical corps, 1920; aged 54; died, June 1, at the Walter Reed General Hospital, Washington, of chronic toxic myelo-encephalitis.

Benjamin Eugene Merrill ⊕ Santa Paula, Calif.; Hahnemann Medical College and Hospital of Philadelphia, 1901, and Medico-Chirurgical College of Philadelphia, 1904; superintendent and owner of the Santa Paula Cottage Hospital; aged 56; died suddenly, June 9, of heart disease.

Charles Christopher Blake ⊕ San Mateo, Calif.; University of Louisville (Ky.) School of Medicine, 1907; member of the Nevada State Medical Association; aged 55; died, July 16, at the University of California Hospital, San Francisco, of bronchopneumonia and abscess of the lung.

George Thomas Fuller, Mayfield, Ky.; Eclectic Medical Institute, Cincinnati, 1889; member of the Kentucky State Medical Association; for many years a member of the state board of health; aged 72; died, July 23, as the result of a cerebral hemorrhage.

James W. C. Scott, Columbia City, Ind.; Jefferson Medical College of Philadelphia, 1880; past president of the Whitley County Medical Society; member of the Indiana State Medical Association; aged 74; died, June 15, of cerebral hemorrhage.

Edward Kerr ⊕ Downingtown, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1890; on the staff of the Chester County Hospital, West Chester, where he died, May 31, of streptococcus septicemia and pneumonia, aged 58.

Walter S. Wilson, Lewistown, Pa.; College of Physicians and Surgeons, Baltimore, 1879; member of the Medical Society of the State of Pennsylvania; on the staff of the Lewistown Hospital; aged 72; died, June 5, of tuberculosis.

Gerald Ryan Moloney, Belleplaine, Minn.; Medical Department of the University of the City of New York, 1875; member of the Minnesota State Medical Association; aged 78; died, July 18, of injuries received in an automobile accident.

Charles Holmes Goodman, St. Louis; Hahnemann Medical College of Philadelphia, 1869; formerly on the staffs of the Christian, and St. Louis Children's hospitals; aged 83; died, July 19, at St. John's Hospital, of carcinoma of the neck.

Charles Clinton Bartholomew, Ogdensburg, N. Y.; Bellevue Hospital Medical College, New York, 1870; formerly health officer of Ogdensburg and county coroner; aged 81; died, July 8, at the Hepburn Hospital, of cerebral hemorrhage.

William Barton Crum, Fort Deposit, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1888; member of the Medical Association of the State of Alabama; aged 62; died, June 28, at Montgomery, of angina pectoris.

Benjamin Franklin Teters ⊕ Middlebury, Ind.; Jefferson Medical College of Philadelphia, 1886; past president of the Elkhart County Medical Society; aged 66; died, July 20, of pulmonary tuberculosis and arthritis deformans.

Daniel H. Kash, Blue Diamond, Ky.; Hospital College of Medicine, Louisville, 1907; member of the Kentucky State Medical Association; aged 45; died, July 19, at St. Joseph's Hospital, Lexington, of abscess of the lung.

James Asbury Sewell ⊕ Boyce, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1905; aged 43; died, in July, at a hospital in Hot Springs National Park, Ark., of acute encephalitis.

Robert Connell Meadors, Marvell, Ark.; Vanderbilt University School of Medicine, Nashville, Tenn., 1913; aged 40; died, in May, at the U. S. Veterans' Hospital number 88, Memphis, Tenn., of tuberculosis.

Alexander Gladstone Kennedy, Boston; College of Physicians and Surgeons, Baltimore, 1897; member of the Massachusetts Medical Society; aged 56; died, July 9, of cardiorenal disease.

Samuel Austin Pratt, Kingwood, W. Va. (licensed, West Virginia, under the Act of 1881); member of the West Virginia State Medical Association; aged 77; died, June 15, of pneumonia.

Maurice Joseph Allen, West Newton, Mass.; Harvard University Medical School, 1927; aged 31; died, July 12, at the City Hospital, Boston, of injuries received in an automobile accident.

William A. Wescott ⊕ Berlin, N. J.; Jefferson Medical College of Philadelphia, 1883; for several years member of the state board of health; aged 70; died, July 9, of heart disease.

Charles Theodore Schondelmeier ⊕ Brooklyn; Bellevue Hospital Medical College, New York, 1882; Civil War veteran; aged 83; died, July 18, of carcinoma of the colon.

Felix Hintz, Buffalo; University of Buffalo School of Medicine, 1891; member of the Medical Society of the State of New York; aged 71; died, recently, of angina pectoris.

John Oscar Nystrom, Omaha; Bennett College of Eclectic Medicine and Surgery, Chicago, 1900; aged 66; died, July 13, of chronic nephritis and carcinoma of the prostate.

James Monroe Boyd ⊕ Pasadena, Texas; Memphis (Tenn.) Hospital Medical College, 1912; served during the World War; aged 55; died, July 23, of lobar pneumonia.

Henry Greely Read ⊕ Tipton, Ind.; Miami Medical College, Cincinnati, 1883; formerly member of the state legislature; aged 69; died, July 25, of carcinoma of the ileum.

William Everett Hogan, West Milton, Ohio; Miami Medical College, Cincinnati, 1896; aged 56; died, July 21, at Portsmouth, of carcinoma of the stomach.

Samuel Bell ⊕ Algonac, Mich.; Michigan College of Medicine, Detroit, 1881; aged 70; died, July 16, of diverticulosis of the colon and interstitial nephritis.

John Harrison Knight, East Point, Ga.; University of the South Medical Department, Sewanee, Tenn., 1900; aged 73; died, June 10, of cerebral hemorrhage.

Lee C. Myers, Anderson, Ind.; Meharry Medical College, Nashville, Tenn., 1913; aged 41; died, July 17, at Rochester, Minn., of carcinoma of the cecum.

William J. Fife, Waterville, Ohio; Fort Wayne College of Medicine, 1886; Civil War veteran; aged 80; died, July 16, of cerebral hemorrhage.

John O. Jackson, Corry, Pa.; Homeopathic Hospital College, Cleveland, 1882; aged 71; died, in June, of cardiovascular and renal disease.

James Maddox Strickland, Austell, Ga.; Atlanta Medical College, 1895; also a druggist; aged 60; died, July 18, following a long illness.

William B. Crawford, Lincolnton, Ga.; University of Louisville (Ky.) School of Medicine, 1892; aged 60; died, June 10, of paratyphoid fever.

Oscar A. Todd, Atwood, Tenn.; University of the South Medical Department, Sewanee, 1900; aged 58; died, May 31, of heart disease.

W. Webster-Butterfield, Los Angeles; Bellevue Hospital Medical College, New York, 1868; aged 82; died, April 28, of heart disease.

Lemuel Pinckney Peters ⊕ Clayton, Ill.; Keokuk (Iowa) Medical College, 1905; aged 49; died suddenly, July 18, of heart disease.

Paul Ackermann, Chicago; Chicago College of Medicine and Surgery, 1910; aged 55; died, July 19, of chronic myocarditis.

Eugene L. Robertson, Lansing, Mich. (licensed, Michigan, 1900); aged 78; died, July 10, at Sarasota, Fla., of chronic myocarditis.

E. J. Beck, Quail, Texas (licensed, Texas, under the Act of 1907); aged 62; died suddenly, July 12, of cerebral hemorrhage.

Anderson W. King, Redlands, Calif.; Rush Medical College, Chicago, 1854; aged 101; died, April 10, of bronchopneumonia.

William Carter Griswold, Princeton, Ill.; Chicago Medical College, 1864; Civil War veteran; aged 87; died, July 20, of senility.

Davis J. Thomas, Lockney, Texas; Eclectic Medical Institute, Cincinnati, 1883; aged 73; died, July 14, of pneumonia.

Chester A. Tygart ⊕ Denver; Central Medical College of St. Joseph, Mo., 1898; aged 63; died, May 9, of tuberculosis.

John Wesley Hurt, Atlanta, Ga.; Atlanta Medical College, 1884; aged 67; died, July 19, of heart disease.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

LUCKY TIGER

A Dangerous Nostrum Sold for Dandruff, Eczema and Sore Feet

The Lucky Tiger Remedy Company of Kansas City, Mo., puts out a preparation called "Lucky Tiger," which bears on the trade package such claims as:

> "Kills dandruff germs—stops itching."
>
> "Corrects eczematous conditions of the scalp, promotes luxuriant growth, the most efficacious remedy that science and money can produce."
>
> "Stops falling hair."
>
> "The world's greatest hair and scalp remedy. . . . A single bottle has been known to relieve the worst form of scalp disorders."

These and similar claims make plain the fact that Lucky Tiger is not a cosmetic (and therefore exempt from the operations of the national Food and Drugs Act) but is sold specifically as a remedy for human ailments. In view of this, it is hard to understand why the federal authorities have not proceeded against the thing, as the claims made are obviously false and fraudulent, while the product itself is, as will be shown, a dangerous one.

The carton in which the bottle of Lucky Tiger comes reproduces the usual farrago of testimonials, most of them dealing with the alleged virtues of Lucky Tiger as a cure for eczema. Evidently, believing that the sale of this nostrum can be increased by enlarging the scope of its alleged remedial powers, the Lucky Tiger Remedy Company encloses a leaflet with the trade package, giving "Other Uses for Lucky Tiger." This leaflet praises the product as an "unfailing remedy for chigger, mosquito and other insect bites," and especially recommends the preparation for "tired, aching and sore feet."

Reports have come to The Journal of severe cases of skin irritation following the use of Lucky Tiger. A Wisconsin physician reported a most severe acute dermatitis, followed by a marked eczema, which literally covered the head with crusts, following the use of the preparation. A physician in the state of Washington reported a case of dermatitis venenata of the scalp, face, neck and upper chest following its use. A physician connected with the dermatologic department of a state university reported that a patient had aplied Lucky Tiger to her scalp and some evidently ran down on her face and neck, producing a severe dermatitis.

In view of these reports, a bottle of Lucky Tiger was purchased on the open market and turned over to the A. M. A. Chemical Laboratory for analysis. The laboratory report follows:

"One original bottle of Lucky Tiger Hair Tonic (Lucky Tiger Remedy Company, Kansas City, Mo.) was submitted to the A. M. A. Chemical Laboratory for examination. The bottle contained approximately 350 cc. (12 fluidounces) of a green colored, highly perfumed liquid. On the label appears the following declaration: 'Not over 60% alcohol.' The solution was alkaline to litmus. The amount of solids found was 1.2 per cent and the ash was 0.23 per cent. Qualitative tests indicated the presence of salicylate, arsenic (in the form of arsenite), sodium, ethyl alcohol and methyl alcohol; a trace of potassium was also present. Alkaloids, chloride, iodide and borate were not found.

"Quantitative determinations yielded the following:

Specific gravity at 20 C.	0.9414
Sodium salicylate (determined as salicylic acid)	0.47 per cent
Arsenic (calculated as sodium arsenite)	0.15 per cent
Ethyl (grain) alcohol* (by volume)	37.74 per cent
Methyl (wood) alcohol* (by volume)	8.70 per cent

* The ethyl and methyl alcohol determinations were made according to the A. O. A. C. method, employing the use of the refractometric index on the purified distillate.

"From the foregoing analysis, it is concluded that Lucky Tiger consists essentially of ethyl (grain) alcohol, methyl (wood) alcohol, sodium salicylate and sodium arsenite. The amount of arsenic present as sodium arsenite is about one-tenth as much as found in solution of potassium arsenite (Fowler's solution). It will be remembered, however, that the dose of the latter is only 0.2 cc. (3 minims). As the average application uses much more than three drops, it readily can be appreciated what a relatively strong solution of arsenic this is."

It is evident from the chemists' report that this preparation is one that has no place among legitimate home remedies. Not only are the claims made for the preparation false and fraudulent, but the stuff is also misbranded as to composition (alcohol content) and, if we are not mistaken, because of the presence of the dangerous wood alcohol, it would also be declared adulterated under the federal law.

LUKOSINE NOT ACCEPTABLE FOR N. N. R.—II

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. Puckner, Secretary.

Since publication of the report "Lukosine Not Acceptable for N. N. R." in The Journal, Feb. 26, 1927, p. 667, the National Drug Company has informed the Council that the quantitative formula for Lukosine is given in its price list and in its "revised advertising." The firm sent a copy of the latter, which contains the following formula:

"Boric Acid	80.5 per cent
"Alum	9.2 per cent
"Zinc Sulphate dried	4.0 per cent
"Zinc Phenolsulphate [Phenolsulphonate?]	2.5 per cent
"Sodium Salicyclate	2.5 per cent
"Phenol	1.0 per cent

"rendered pleasantly aromatic with a blend of Thyme, Peppermint, Eucalyptus and Methyl Salicylate.

"Each heaping teaspoonful contains 1/75 grain of Hydrastine White Alkaloid."

In view of this the Council's statement is now revised by the omission of the word "semisecret" to read: "Lukosine is unacceptable for N. N. R. because it is a needlessly complex, and therefore irrational, mixture marketed with a therapeutically suggestive name and with unwarranted therapeutic claims, in such a way as to lead to its indiscriminate and ill advised use by the public."

Correspondence

NURSES' RECORDS AND HOME NURSING

To the Editor:—During the last few years I have noticed that an increasing number of nurses who are sent to private homes are careless about keeping records. This applies to those who are graduates of the better nursing schools as well as to those who hold diplomas from less well known institutions. It is needless to say that a carefully kept record is an obligation which the nurse owes to the patient as well as to the physician.

In days gone by, when nurses were receiving one half the remuneration which is being given them today and were working twice as many hours, they prided themselves on the neatness and accuracy of their record sheets. Today they frequently do not keep any record at all or use a scrap of paper on which they jot down illegible notations in a haphazard and unsystematic way.

In a severe case of measles pneumonia that occurred in one of my patients seen last winter, no record was started by the nurse because she did not know whether I required it. This was only one of numerous instances in which the nurse did not begin a record at all, or kept such a poor report that she herself had difficulty in deciphering it.

As a rule the nurse even fails to bring with her the ordinary printed forms which are used in the hospital and which are quite as important in practice outside an institution.

I am writing to The Journal to ascertain whether my experience is a general one, and if it is, what has been the cause for this poorer service. Is it possibly the physician's fault because he does not demand a higher class of service outside the hospital? Is it possibly due to the fact that the nurses are no longer being trained for bedside work in the home, or is it the result of some other deficiency in their training? May it not be due to the fact that in most instances nurses are assigned to their cases from a large central registry, instead of being sent from their own hospital as was formerly the case? Perhaps the elements of discipline and pride in their own institution no longer exist.

Is it not just that we should expect a well qualified trained nurse to go to the bedside of her patient prepared to organize the sickroom, to make the necessary observations, and to report them as befits the dignity of one who belongs to a trained professional service?

Isaac A. Abt, M.D., Chicago.

"ENORMOUS NUMBER OF GALLSTONES IN A PATIENT"

To the Editor:—In your issue of July 2, page 45, your Rio de Janeiro correspondent reported a case in which 1,445 gallstones were removed by Professor Brandão Filho. Quite a number of years ago, I had a case in which I removed more than 4,000 gallstones. (The nurse counted 4,000 and said there were a few more around on sponges but she thought that was enough!) I thought I had perhaps broken the record, but when I looked the matter up I found that 17,000 had been reported, and so said nothing about it.

J. F. Baldwin, M.D., Columbus, Ohio.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ENO—FLY EXTERMINATORS

To the Editor:—Please tell me (1) the composition of Eno, the laxative salt, (2) the composition of one or two of the extensively advertised fly and mosquito exterminators, such as Dethol and Flit.

W. L. Stevenson, M.D., Covington, La.

Answer.—1. "Eno" in this country has for years been known and sold as "Eno's Fruit Salt" in the British Isles. There have been various analyses made of it and they seem to agree in general in declaring that the stuff is essentially a mixture of baking soda, sodium bitartrate and tartaric acid. This means that the product is very similar to ordinary seidlitz powders, except that sodium bitartrate is substituted for the rochelle salt used in the seidlitz powders.

2. The Chemical Laboratory of the American Medical Association has not investigated the various fly sprays on the market. In the *Druggists Circular* for July, 1922, page 256, appeared a report by George E. Ewe on the composition of some commercial fly repellents. According to this report, the commercial fly repellents depend on their content of disagreeably odorous and tasting constituents for what measure of repelling action they possess. It is stated in the report that one product consisted of crude petroleum and contained phenolic compounds.

It is our understanding, however, that the type of fly repellent most popular at the present time consists largely of refined hydrocarbons, such as kerosene or deodorized kerosene (at times carbon tetrachloride is added), and that they contain an extract of pyrethrum flowers. The pyrethrum flowers may be extracted with the kerosene, in proportion of 1 pound of pyrethrum flowers to one gallon of kerosene, or a commercial extract may be purchased and dissolved in the hydrocarbon base. To the product is also added such aromatic substances as oil of wintergreen, oil of eucalyptus, "oil of cedar," and "sassafras." What the relative efficiency of these preparations is we do not know, nor have we seen studies in which the fly preparation has been subjected to comparative tests with deodorized kerosene without the extract from pyrethrum flowers. The Hygienic Laboratory of the U. S. Public Health Service, Treasury Department, and the Bureau of Entomology, Department of Agriculture, have issued reports on muscicides and other fly-destroying agencies.

REMOVAL OF MOLES

To the Editor:—I am interested in the indications and contraindications for the removal of moles. Could you either give me information or refer me to the proper authority? Please omit my name. M.D., Chicago.

Answer.—There is no indication, except a cosmetic one, for the removal of moles up to the age of 40. Deeply pigmented moles especially should be left strictly alone. Ordinary light brown nonhairy or hairy moles may be safely removed with the electrocautery, by electrolysis, by freezing with carbon dioxide snow or by surgical ablation. In later life when moles show a tendency to grow, to become rough and warty, or are in danger of being irritated, as by shaving, they should be removed before degenerative changes have taken place. There are in the literature numerous instances of malignancy developing from a nevus as a result of traumatism, irritation or improper treatment. There are no contraindications for the removal of moles except in the case of the flat, black melanotic growths, which are best left undisturbed.

DIGITALIS AND STROPHANTHIN

To the Editor:—In reference to strophanthin, the Epitome of the Pharmacopeia says, "Caution should be used, especially if patient has been taking digitalis"; also, "absorption from the alimentary canal is so variable that its administration by mouth is inadvisable." Shattuck of Boston writes: "Death may result if the patient has taken any preparation of the digitalis group within one week" and takes strophanthus. In spite of this we find the Chicago Chemical Company, Otis Clapp & Son of Boston, and many other houses putting out tablets containing digitalis and strophanthus in combination. Being interested in several heart cases in which there was poor compensation, I am very much interested. A year ago, I advised a patient to take 25 drops of tincture of digitalis three times a day for a week, and the next week to take a tablet of the Chicago Chemical Company, containing 3 minims of tincture of strophanthus four times daily, alternating these remedies each week. The patient has thrived and grown better on this treatment, but perhaps according to the late authorities my advice was not good. I am rather "up in the air," as some patients cannot take digitalis and your authorities advise giving strophanthus only hypodermically, on account of irritant action and poor absorption. As this patient lives miles away he cannot receive the hypodermic injections needed, but he seems to have no trouble by the alternating of digitalis and strophanthus. I am writing for enlightenment.

Arthur John Tenney, M.D., Branford, Conn.

Answer.—Strophanthin is intended for intravenous or intramuscular injection exclusively, and since it is recommended for use in emergencies in which the full therapeutic action—not the full therapeutic effect—must be induced within an hour or so, the dose recommended is correspondingly large compared to the fractional doses of digitalis which are administered orally. It follows, therefore, that if nearly a full therapeutic dose of digitalis has been taken recently, and a full therapeutic dose of strophanthin is injected, the patient will have received nearly twice as much as he requires, because the action of the digitalis previously given remains in effect and this is added to the action of the strophanthin. It is for this reason that caution is recommended when strophanthin is given shortly after a course of treatment with digitalis. Sometimes strophanthus is absorbed slowly; sometimes the greater part of several successive doses remains in the gastro-intestinal tract and is absorbed rapidly, leading to poisoning. It is because of this irregularity of absorption that it is now commonly held that strophanthus is not suited for oral administration. One can easily understand that the rapid absorption of the greater part of several successive doses produces the same effect as the intramuscular injection of an average dose of strophanthin, and its use after a course of treatment with digitalis involves the same danger as the injection of strophanthin.

It is the consensus of those who specialize in the treatment of cardiac disease that combinations of digitalis and strophanthus are irrational, the reason being obvious from what has just been stated, though no one denies that many patients are benefited by treatment with strophanthus.

It is well known that many cardiac patients who fail to improve with full digitalization owing to some unknown condition show marked improvement when the same specimen of digitalis is given subsequently, the presumption being that some function of the heart has become so altered that the latter is able to respond favorably to treatment with digitalis. Such cases afford opportunities for attributing extraordinary value to any digitalis preparation that the clinician happens to employ in the second course of treatment. Dr. Harry Gold reported to the Heart Committee of the New York Tuberculosis and Health Association, April 24, 1927, that during an experience of five years in a cardiac clinic, during which time more than 500 patients were treated with four different specimens of active powdered digitalis leaf in the form of compressed tablets for periods varying from a few months to several years, there was not one instance in which it was found necessary for any reason to resort to any other form of digitalis medication.

FUMIGATION AFTER INFECTIOUS DISEASES

To the Editor:—Is there any value in fumigation after infectious diseases—scarlet fever, tuberculosis, diphtheria, smallpox? Is it possible for the disease to be transmitted by books or clothing, and if so for how long? I have been old fashioned enough to practice fumigation on the ground that if it did no good it certainly did no harm, and I still am as careful as possible to prevent the spread of these diseases, notwithstanding the quite prevalent teaching of many of our health authorities that fumigation is valueless and that it is safe for smallpox patients to send letters and that about all that is necessary in treating one of these diseases is first to dip the sheets, towels and other articles of clothing in an antiseptic solution; to forget all else during the illness and after quarantine is removed.

Frederick A. Rhodes, M.D., Los Angeles.

Answer.—Most pathogenic organisms become inert within a short time outside the body unless they find an especially suitable medium for growth and development. When exposed to sunshine and fresh air they rapidly lose their virulence and power to grow. By the time a patient has recovered from diphtheria or scarlet fever and positive cultures are no longer obtained from the nose and throat, there is little danger from the room he has occupied, and at the termination of quarantine simple but thorough house cleaning is all that is necessary.

The early detection of "carriers" in the family and among those who have been in close contact with the patient is of great importance. Mild infections should be investigated carefully. Facilities for making reliable cultures should be available in every community.

As long as the patient is ill and secretions are profuse, great care is necessary in order to prevent the spread of infection. Tongue depressors, culture swabs, mouth sponges and dressings should be placed in paper receptacles at the bedside and promptly burned. Dishes and linens should be boiled. Excreta and bath water should be well mixed with chlorinated lime previous to disposal.

All persons who enter the isolation area should have clean hands. Coats should be removed and sleeves rolled above the elbows. A washable cap and gown should be worn in order to protect the hair and clothing from contamination from the patient and things about him. When cultures are made, a mask should be worn for protection. After the examination of the patient the mask, cap and gown should be removed to be cared for properly, and the hands cleansed thoroughly with soap and running water before one leaves the isolated area. Articles such as the stethoscope or the thermometer should be washed carefully with soap and water. Books, mail, clothing or other articles contaminated by fresh infectious secretions are dangerous if handled by others before they have been thoroughly dried and exposed to sunshine and fresh air. But such objects, furnishing neither moisture nor a medium on which bacteria can grow, do not provide the conditions necessary for their prolonged life.

When a patient dies in the acute stage while discharges from the mucous membranes carrying virulent infection are abundant, the contaminated area is especially dangerous. But even under such circumstances simple methods of disinfection are safer than fumigation. All contaminated linen, dishes, utensils and things that can be sterilized by boiling should be boiled. All garbage, books, papers, toys and the like should be burned. Furniture, floors, woodwork, windows and walls, especially about the patient's bed, which may have been smeared or sprayed by fresh secretions, should be scrubbed with soap and water. Mattresses and pillows that have been protected from gross infection by pads, rubber cloth or newspapers should be thoroughly sunned and aired before being put to use. Rubber sheets and hot water bottles are safe for use after being scrubbed with soap and water and hung in the sunshine to dry.

The most common methods by which communicable diseases are spread from the sick to the well are too often overlooked

Now, persons are the usual conveyors of infection. Fresh infectious secretions from the upper respiratory tract of the patient or the "carrier," deposited on dishes or other objects, may be directly transferred in the moist state to others. The hands of persons handling contaminated things frequently transfer infection. In using the handkerchief the patient smears fresh discharges on his fingers, which in turn may clasp the hands of his friends or touch objects handled by others, who may carry the infection directly to their own mucous membranes. The hands of those who care for the patient are obviously dangerous. In examining or cleansing the mouth, nose, ears or eyes, or in touching the bedding the fingers are often smeared with infectious material which can easily be carried over to others unless the hands are cleansed most carefully.

From the standpoint of community welfare, medical asepsis is highly important and yet it lags far behind surgical asepsis. If careful medical asepsis were taught the medical student who will set the standards for the next generation, the results doubtless would be better control of communicable diseases. We need to develop the aseptic conscience and teach medical students and people generally, especially mothers of young children, the value of simple isolation at the onset of any symptoms of acute illness, and the necessity for simple measures to prevent transfer of infection, such as careful cleansing of the hands after touching the patient or contaminated things. These procedures are vitally important in the prevention of the spread of contagion. Personal cleanliness, mechanical cleansing of contaminated areas, and the boiling or burning of articles grossly contaminated are much simpler and safer than the use of antiseptics and fumigation, which often do little more than to give a false sense of security and leave a disagreeable odor.

PRURITUS VULVAE

To the Editor.—Could you suggest a remedy for pruritus vulvae? My patient has normal uterus and adnexa, microscopic examination has been negative, and there is no discharge. The introitus is inflamed, and on this red base there are a few white papules. It spreads to the vagina and lasts until the menses are well established. Alkaline enemas have helped a good deal, but otherwise no ointment or lotion has had any effect. Please omit name.

M.D., South Dakota.

Answer.—It is impossible to offer any intelligent suggestions for such a case. The subject will be found discussed more completely than can be done in a reply in any of the standard textbooks on skin diseases.

THE WASSERMANN TEST

To the Editor:—May I refer a case to you for an opinion on the value of a Wassermann test: The patient was in the navy, where he had chancroids and for which mercury was given according to his story and later arsphenamine; but no test has ever been reported positive, although there have been at least a half dozen made in as many different laboratories. These tests were made not because of symptoms that were particularly suggestive and I can not elicit any of the positive symptoms at any time in his story. He consulted me before marriage nearly two years ago, and I thought it absolutely safe and his wife and child have not shown signs of the trouble. Following some slight dizzy spells for which he did not consult any one, he had a severe convulsion without paralysis, was unconscious four hours and was rational after from twenty-four to thirty, with a 26,000 white count, no fever, a bloody spinal fluid and slow pulse (50), vomiting for twenty-four hours, and prompt recovery. He says that after two weeks he felt better than he had for five years. Both spinal fluid and blood were examined and gave negative results; likewise the colloidal gold test. The patient is 29 and does not show signs of other pathologic changes. Another physician seeing him with me thought he should be treated for syphilis, whatever the result of the Wassermann test, which we did not have then. Can you refer this to some one or make suggestions in any way? Please omit name.

M.D., Montana.

Answer.—A negative is necessarily much more difficult of proof than a positive. Nevertheless, negative results with six different Wassermann tests coupled with negative observations in the spinal fluid and the absence of clinical symptoms of syphilis at any time render the presence of syphilitic infection extremely improbable. It might be well to give a provocative dose of 0.3 Gm. of neoarsphenamine and then repeat the Wassermann test with the blood. The occurrence of a severe convulsion may be due to many conditions other than syphilis. It is not clear from the description whether the blood in the spinal fluid was due to trauma of a vessel at the time of the puncture; if it was, the blood would not be evenly mixed and the later portions of the fluid would be relatively clear; the significance of this would be nil. If the blood was evenly mixed, it would suggest some vascular disease or injury and one might even consider the possibility of an aneurysm. The high leukocyte count offers the possibility of some infection, though one would expect to find an associated fever. Careful studies should be made to determine whether there is an intracranial tumor—eye examinations, including the visual fields, and a detailed neurologic investigation. The preceding attacks of dizziness, the prolonged unconsciousness and the signs of increased intracranial pressure all suggest some serious intracranial lesion.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

American Board for Ophthalmic Examinations: Detroit, Sept. 12. Sec., Dr. W. H. Wilder, 122 S. Michigan Blvd., Chicago.

Alaska: Juneau, Sept. 6. Sec., Dr. Harry C. DeVighne, Juneau.

Connecticut: State Board of Healing Arts, New Haven, Oct. 3. Prerequisite to examination. Chairman, Dr. Charles M. Bakewell, Box 1895, Yale Station, New Haven.

Montana: Helena, Oct. 4-6. Sec., Dr. S. A. Cooney, Power Blk., Helena.

New Hampshire: Concord, Sept. 8-9. Sec., Dr. Charles Duncan, Concord.

Oklahoma: Oklahoma City, Sept. 13-14. Sec., Dr. J. M. Byrum, Shawnee.

Porto Rico: San Juan, Sept. 6. Sec., Dr. D. D. Biascoechea, Box 804, San Juan.

Georgia June Examination

Dr. B. T. Wise, secretary of the Georgia Board of Medical Examiners, reports the written examination held at Augusta and Atlanta, June 8-9, 1927. The examination covered 10 subjects and included 100 questions. An average of 80 per cent was required to pass. Sixty-one candidates were examined, all of whom passed. Seven candidates were licensed by reciprocity and one by endorsement of his credentials. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
Yale University School of Medicine	(1925)	91
Emory University School of Medicine	(1927)	86.6
88.5, 89.5, 89.7, 89.8, 90, 90, 90.1, 90.5, 90.8, 91.1, 91.3, 91.4, 91.5, 91.6, 91.7, 91.7, 91.8, 92, 92.1, 92.3, 92.4, 92.7, 93, 93, 93, 93.5, 93.8, 94.1, 94.5, 95.6, 95.6.		
University of Georgia Medical Department	(1927)	87.5
89.7, 89.8, 90.4, 90.4, 91, 91, 91.2, 91.2, 91.6, 92, 92, 92.1, 92.2, 92.3, 92.4, 93, 93.3, 93.5, 93.6, 94.2, 94.3, 94.4, 94.6, 94.6, 95.9, 96.1.		
Eclectic Medical College, Cincinnati	(1927)	86.6
Meharry Medical College	(1927)	92

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
State University of Iowa College of Medicine	(1922)	Iowa
Kentucky University Medical Department, Louisville	(1904)	Kentucky
Tulane University of Louisiana School of Medicine	(1925)	Louisiana
Meharry Medical College	(1925)	Tennessee
Vanderbilt University School of Medicine	(1921)	S. Carolina
University of Virginia Department of Medicine	(1923)	Virginia

College ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
National University of Athens, Greece	(1909)	Ohio

Kentucky June Examination

Dr. A. T. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held in Louisville, June 21-23, 1927. The examination covered 11 subjects and included 110 questions. An average of 75 per cent was required to pass. Of the 71 candidates examined, 70 passed and 1 failed. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
Hospital College of Medicine, Louisville	[illegible]	76
University of Louisville School		82
(1927) 74, 76, 79, 80, 80, 82, 82, 83, 83, 83, 83, 83, 83, 83, 83, 83, 83, 83, 84, 84, 84, 84, 84, 84, 84, 85, 85, 85, 85, 85, 85, 85, 85, 86, 86, 86, 86, 87, 87, 87, 87, 87, 87, 88, 88, 88, 89, 89, 91, 91, 92, 92, 98.		
Johns Hopkins University Medical Department	(1924)	86
Cornell University Medical College	(1925)	86
Eclectic Medical College, Cincinnati, Ohio	(1927)	79
81, 81, 82, 82.		
University of Cincinnati College of Medicine	(1926)	80, 85

College FAILED	Grad. Year	Cent Per
University of Louisville School of Medicine	(1927)	79

Book Notices

Our Own and Our Cousins' Eyes. By Thomas Hall Shastid, A.M., M.D., F.A.C.S. Cloth. Price, $1. Pp. 199. Southbridge, Massachusetts: American Optical Company, 1926.

In this lecture the author provides a comparative study of the eyes of fishes, reptiles and mammals, leading to a brief discussion of the human eye as it exists today. Man is at present a near-looking animal. Nature is trying to help him by strengthening the focusing apparatus for near points. Dr. Shastid believes that the eye of the future will be a normal-sighted eye supplied with strongly developed focusing apparatus for near objects. The field of view will become smaller and smaller. He anticipates a future in which the human eye will be microscopic and telescopic.

Saving Eyesight After Mid-Life. By John Herbert Waite, M.D., S.M., Instructor in Ophthalmology, Harvard Medical School. Cloth. Price, $1. Pp. 48, with illustrations. Cambridge: Harvard University Press, 1927.

The Harvard Health Talks now include fifteen subjects, well presented for general audiences. This book on eyesight may be recommended to any reader. It concludes that a periodic examination by an oculist is necessary because of the insidious onset of degenerative disease of the eye, that cataract may be part of a systemic condition of which changes in the lens are but one manifestation, and that glaucoma can usually be held in check if the patient will secure early optical examination.

Therapie der organischen Nervenkrankheiten. Von Privatdozent Dr. Max Schacherl, Vorstand der Neuroluesstation am Kaiser Franz Joseph-Spital in Wien. Paper. Price, 6.90 marks. Pp. 141. Vienna: Julius Springer, 1927.

The author is chief of the neurosyphilitic department of Professor Wagner-Jauregg's clinic in Vienna and thus disposes of a huge clinical material. The methods discussed and recommended are those which years of experience have taught him to be those most useful. As might be expected, eight of the fourteen lectures deal with syphilitic nervous diseases. Mercury, bismuth, iodides, the arsphenamines and the various forms of fever therapy, old and new, are discussed fully. The more important other organic diseases are taken up, and electrotherapy and hormone therapy have a chapter each. As indicated by the title, only the organic diseases are discussed. The author still uses neoarsphenamine intraspinally, which he declares to be without danger. No mention is made of cistern puncture and injection, nor is tryparsamide mentioned. In multiple sclerosis a combination of fever therapy, arsphenamine and calcium salts is recommended. In the acute stage of encephalitis the author uses Pregl's iodide solution: in the chronic stage, scopolamine and sodium cacodylate, sometimes together with parathyroid and calcium. The chapter on hormones is not abreast of the times.

The Harvey Lectures. Delivered Under the Auspices of the Harvey Society of New York, 1925-1926. Under the Patronage of the New York Academy of Medicine. Series XXI. By Dr. F. R. Nager, Dr. John H. Northrop, Dr. Warren H. Lewis, Dr. Edwin B. Wilson, Dr. Knud Faber, Dr. B. Brouwer and Dr. J. B. Collip. Cloth. Price, $4. Pp. 229, with illustrations. Baltimore: Williams & Wilkins Company, 1927.

The annual volume of the Harvey Lectures presents some significant contributions in medical fields, reflecting indeed the high points in progress for the past two years. Problems in otology are discussed by Dr. F. R. Nager of the University of Zurich, pepsin and trypsin by Dr. John H. Northrop of the Rockefeller Institute, blood changes by Warren H. Lewis of the Carnegie Institution, the parathyroid glands by Dr. J. B. Collip, and comparative anatomy and neuropathology by Dr. B. Brouwer of the University of Amsterdam. Two general essays will have great interest for every medical reader. They are empiricism and rationalism by Dr. Edwin B. Wilson of Harvard University, and a historical outline of medical therapy by Dr. Knud Faber of the University of Copenhagen. Dr. Wilson condemns primarily machine-like research which is death to thought. Dr. Faber discusses the philosophy of therapy, tracing its growth from the simple drug to the use of nonspecific protein therapy. It is impossible to distinguish between therapy for the alleviation of symptoms and that for influencing the course of the disease. We must recognize, however, that only the remedy which strikes at the cause is in the real sense of the word curative.

The Clinical Interpretation of Blood Chemistry. By Robert A. Kilduffe, A.B., A.M., M.D., Director of Laboratories, Atlantic City Hospital. Cloth. Price, $2.50. Pp. 186, with 20 illustrations. Philadelphia: Lea & Febiger, 1927.

The average practitioner of medicine is hardly competent to undertake the laboratory study of the blood that is a part of the modern development of physiologic chemistry. On the other hand, the study of the chemistry of the blood offers a vast amount of valuable information in the diagnosis and treatment of disease. Dr. Kilduffe's book is planned primarily for the general practitioner with a view to aiding him in the collection of blood from a patient on whom a chemical study of the blood must be made and then to help him interpret the results submitted to him by the laboratory. The book is written in simple form and provides a large amount of data of practical value. Several chapters on the use of insulin give briefly many essential facts relating to the modern treatment of diabetes.

Traité des maladies de la prostate. Par Georges Luys. Prostatectomies et tumeurs malignes. Par Victor Pauchet, chirurgien de l'Hôpital Saint-Michel. Paper. Price, 90 fr. Pp. 680, with 462 illustrations. Paris: Octave Doin, 1926.

This large and profusely illustrated volume is the result of an enormous experience with diseases of the prostate. The authors are among the leaders of French urologic thought and their work is inclusive and reliable. The first half of the book considers the treatment of diseases of the prostate gland and is by Georges Luys, while the second half, which details the surgical measures directed toward the relief of lesions of the gland, is by Victor Pauchet. The anatomy and physiology are thoroughly covered. An important chapter on the clinical examination of prostatic lesions is splendidly written. Radiologic examination is not given a high place in the various procedures used in diagnosis. Hypertrophy of the prostate is taken up in a coherent manner, with rather clearer elucidation than is usually noted. The microscopic changes in prostatic hypertrophy are thoroughly considered, and frequent reference is made to the foreign literature. The various methods of perineal prostatectomy are completely outlined and illustrated. Hugh Young's method is illustrated in full. Preliminary ligation of the vas is recommended as a prophylactic procedure against epididymitis. The suprapubic route is also thoroughly detailed. Regional anesthesia is given its appropriate place. A large chapter on "forage de la prostate," a method that has been gaining ground in this country since the perfecting of the high frequency currents for this work, is well written and instructive. In the discussion of evacuation of prostatic abscess a method is illustrated which cuts through the recto-urethralis muscle, which would seem unnecessary and undesirable, because often the diaphragm of the perineum is permanently weakened, thus resulting in a lack of erectile power in a young person. As a whole, the volume must be considered as a valuable addition to the literature on prostatic surgery and merits the attention of every urologist who reads French.

Applied Physiology. By Samson Wright, M.D., M.R.C.P., Department of Physiology, Middlesex Hospital Medical School. With introduction by Swale Vincent, M.D., LL.D., D.Sc., Professor of Physiology, University of London. Cloth. Price, $4.50. Pp. 418, with 37 illustrations. New York: Oxford University Press, 1926.

The medical student is concerned primarily with the facts of physiology. The practitioner of medicine deals with applied physiology; that is to say, with the functions of the body in health and in disease. The book by Dr. Wright is therefore perhaps the most useful work on physiology for the practitioner that has yet been available. In discussing the functions of the various portions of the spinal cord, he deals also with such symptoms as lightning pains and the various forms of paralysis. He discusses the reflexes in their relationship to disease. A section on the parathyroid glands is followed by a consideration of tetany and rickets The chapter on muscular exercises provides the physical and chemical changes in muscle during activity and then the functions of respiration and the metabolism of oxygen associated with muscle action, leading finally to a consideration of dyspnea The physiology of the gastro-intestinal tract is associated with a discussion on constipation and diarrhea The author has carefully selected his literary references and provides after each section one or two references of importance for those who wish more extensive reading In general, the book may be especially recommended to the physician who wishes to keep himself abreast of physiologic investigation that may be of service to him in the practice of medicine

The Embryology of the Pig By Bradley M Patten Associate Professor of Histology and Embryology School of Medicine Western Reserve University Cloth Price $3 50 Pp 323, with 168 illustrations Philadelphia P Blakiston s Son & Company, 1927

The fundamental facts of mammalian development from a dynamic point of view are presented on the basis of a single species Only recently have the greatest gaps in our knowledge of the development of the pig been filled much of this work has come from the Baltimore anatomists, notably Streeter, Sabin and Heuser The author has made the most of these studies with their splendid photographs and drawings His attitude toward the student is that of a guide on an interesting journey and the dreary pedagogue would do well to adopt something of this point of view and more of the freshness of illustration Thus The embryo in his private amniotic aquarium ' or We may liken the matrix of bone to reinforced concrete' Under these conditions we may forgive occasional loose and superficial explanations of events The chapters on the early stages present new and some unpublished work and are especially good They are followed by a detailed description of the 9 to 12 millimeter stages usually used in laboratory courses The subsequent chapters on organogeny are variable in quality and interest Under the nervous system an unsuccessful attempt is made to present the fundamental structure and functions of the adult nervous system as well as a little of the development The chapters on the vascular and skeletal systems are detailed and excellent Especial care has been taken with illustrations and legends, and the bibliography is good

Plotzliche und akute Erkrankungen des Nervensystems Ihr Erkennen und ihre Behandlung Vorlesungen gehalten vor reiferen Studierenden und Aerzten Von Prof Dr S Fleischmann Paper Price, 12 marks Pp 301, with 56 illustrations Berlin S Karger, 1927

In discussing the sudden and acute diseases of the nervous system Fleischmann considers in some detail the apoplexies, cerebral thrombosis, embolism the acute infections, traumatic lesions, and toxic diseases of the nervous system He discusses convulsive seizures and describes the painful conditions of nervous origin and psychogenic disturbances These types are discussed thoroughly and in a simple but lucid manner The practical aspects of each condition are well gone into, so that the practitioner may know after reading this book exactly what to do in any sudden or acute disease Although the book is composed of sixteen lectures given before general practitioners, the neurologist may gain much from studying it The book is needed in the physician's library, as little of the necessary material that it contains is found in any of the general textbooks

The Principles of Pathology By Charles Powell White M D F R C S Honorary Lecturer in Pathology and Director of the Helen Swindells Laboratory in the University of Manchester Cloth Price, $6 Pp 279 New York Longmans Green & Company, 1927

There are no references to literature and no illustrations in this work The author frankly states that it is an expression of personal opinion There are a few charts for such matters as age and distribution of deaths, with diagrams to explain heredity It is an attempt to systematize pathology, as other biologic sciences, botany and zoology for example have been systematized It is consequently replete with definition and nomenclature The processes of disease are arranged, defined and pigeonholed seriatim without much attempt to dwell on their details This has required extensive numbering of topics and their subdivisions, also some pages devoted to schematic arrangement of subjects subsequently mentioned briefly in short separative paragraphs and in the order diagramed The skeleton of general pathology, with all its larger and minute components carefully articulated, is thus bared for contemplation Nevertheless there is a large amount of information presented in an attractive form The difficulty of interweaving interesting brief comments into what is so largely a syllabus has been admirably done Those who are beginning the study of medicine will find this an excellent supplement to other works on pathology

Textbook of Diseases of the Skin and Syphilis Designed for the Use of Students and Practitioners By Albert Strickler, M D, Professor of Dermatology and Syphilology, Temple University, Department of Medicine Cloth Price, $8 Pp 689, with 218 illustrations Philadelphia F A Davis Company, 1927

The author says in the foreword that his experience as a teacher has shown him the need for "a textbook on dermatology constructed on sound pedagogical principles", he says further that he means by this based "on logic" He then calls particular attention to certain features of his book and says that "so far as possible the etiologic classification of the diseases of the skin has been adopted" A preface is interesting, as indicating the work the author has laid out for himself and his feeling about the result From this foreword the author apparently has laid out a rather ambitious scheme and is not altogether dissatisfied with the result

The work may be characterized, however, as a quite commonplace description of dermatoses with nothing original in the treatment of the subject On the whole, it falls much below the standard of numerous other well known textbooks on dermatology A few illustrations justifying this judgment may be given In a book based on sound principles, the anatomy and the physiology of the skin get twelve pages, cutaneous pathology gets three pages, cutaneous bacteriology gets half a page—and these, not a condensed summary of the large facts but a casual loose statement The chapter on eczema has the old familiar sound of dermatology of the early Victorian era Eczema erythematosum, eczema papulosum eczema vesiculosum, eczema pustulosum, eczema squamosum, eczema rubrum are taken up separately, each given a separate description, the students and practitioners for whom the book is designed would hardly get the impression that they are all manifestations of one process A lack of exactness is frequently manifested in the book On page 116, for example, 'multiple tumors of the skin accompanied by intense pruritus" is put down as a synonym of prurigo nodularis The only justification for offering that as a synonym is that Schamberg and Hirschler early described this condition, not as multiple tumors of the skin accompanied by intense pruritus but as "multiple tumors of the skin associated with itching"—a small thing, but indicating a lack of appreciation of scientific niceties There is an utter lack of balance in the attention given to various subjects For example, to the whole group of parapsoriases which if any mention is made of them should at least have enough description to indicate what they are a little more than half a page is given To prurigo, on the other hand, next following it, which is entitled hardly to one tenth as much space, a page and a half is given Then, in the same section, on inflammatory dermatoses, a few pages farther on, less than five pages are given to the whole topic of occupational diseases A good illustration of the sound pedagogic principles meets one's eye next in this chapter on inflammatory dermatoses Under the subject of inflammatory dermatoses dermatitis factitia is followed by acne, which bears about the same logical relation to inflammatory dermatoses that infections of the gallbladder bear to sunburn Three and a half pages are given to dermatitis herpetiformis, three fourths of one page of which is used by a picture labeled "dermatitis herpetiformis" but which might be anything, while quickly following this, another three and a half pages are given to pompholyx, which most dermatologists regard no longer as an entity at all but a manifestation of ringworm Of this fact the reader would get no intimation except that under diagnosis the author says the differentiation between these two conditions "rests mainly upon the presence or absence of the ringworm fungus" (p 182)

The work is abundantly illustrated with pictures, some of which are very good, many of which are valueless. Some of the pictures are open to doubt as to the diagnosis. For example, all the illustrations except one given as seborrheic dermatitis, but described in the legends as seborrheic dermatitis resembling psoriasis, namely, figures 39, 40 and 41, bear little or no resemblance to the disease which they are supposed to illustrate. They may be seborrheic dermatitis; they may be psoriasis, or they may be something else. The picture of pityriasis rosea (p. 151) is a picture of certainly a rare type of pityriasis rosea if pityriasis rosea at all The colored picture of xeroderma pigmentosum (p. 179) reminds one of a colored picture of a sort that might have been taken from Bateman atlas of 1830 It looks more like erysipelas than anything else. It certainly bears no resemblance to xeroderma pigmentosum.

Les cancers du sein. Par Pierre Delbet, professeur de clinique chirurgicale à la Faculté de médecine de Paris, et Mendaro, assistant etranger a la clinique du professeur Delbet. Paper Price, 50 francs. Pp 339, with illustrations Paris. Masson & Cie, 1927.

This monograph is one of a number of the "Annales de la clinique chirurgicale du professeur Delbet." It is essentially a contribution to the prognosis of cancer of the breast. The results of study of the microscopic structure of material accruing from 353 operations form the major portion of the work. The operations included amputation of the breast and removal of the subclavicular and axillary lymph glands, and the axillary adipose tissue. Brief but satisfactory descriptions of the symptoms, diagnosis, prognosis, and operative and nonoperative treatment are included The central theme is the relative malignancy of the many histologic varieties of carcinoma of the breast It was learned that for about 45 per cent of all the mammary carcinomas the histologic structure warrants a favorable prognosis, and for about 25 per cent the microscopic appearance indicates a malignant tumor for which surgery has no remedy, even with early operation For the prognosis in the remaining 30 per cent, the microscopic examination was of no aid. It is a pleasing surprise to encounter so much that is novel from these painstaking studies extending over about ten years, studies of disease concerning which information has for a long time seemed so finished, except for the unsolved problems of cancer in general.

The Golden Complex A Defence of Inferiority By Lee Wilson Dodd. Cloth Price, $1.75 Pp. 171 New York· John Day Company, 1927.

With the same wit that constituted the chief attraction of his novels, Mr. Dodd exhibits for a public audience the virtues of the inferiority complex. He illustrates his story with some interesting cases and pleads for the retention of this complex as a feature of American life. At the same time he picks numerous flaws in the psychoanalytic doctrines, including the vagaries of dream interpretations. He considers the inferiority complex, christened by him the "cosmic vitamin," as driving mankind to greater and greater discoveries. Only a feeling of inferiority, he says, can smother boredom and make for progress. *The book is beautifully* printed and bound with all the artistry that marks the productions of this new publisher.

To Begin With, Being Prophylaxis Against Pedantry By Raymond Pearl, Director of the Institute for Biological Research, Johns Hopkins University. Cloth. Price, $1.50. Pp 96. New York. Alfred A. Knopf, 1927.

In this volume, Dr Pearl has elaborated an essay which originally appeared in *Science* into a booklet for every scientific student. He presents a list of seventy books with which every medical student may well be familiar, the last group of fourteen, however, dealing largely with biostatistics, the special field with which Dr. Pearl is primarily concerned While every one will have other books to add to this list, it is doubtful that the scientifically minded reader will fail to improve himself if he is thoroughly familiar with all the books that Dr. Pearl recommends Allowing for prejudices and personal likes and dislikes, this list is a most fascinating presentation of desirable literature.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender Selections will be made for more extensive review in the interests of our readers and as space permits *Books listed in this department are* not available for lending. Any information concerning them will be supplied on request

The Queen Charlotte's Practice of Obstetrics By J Bright Banister, M D, F.R C S, Obstetric Physician, Charing Cross Hospital, Aleck W Bourne, M B, F R C S, Obstetric Surgeon to Out patients, St Mary's *Hospital, Trevor,* B Davies, M.D, F.R C S, Gynæcological Surgeon, Hospital for Women, Soho, L Carnac Rivett, M C, F R C S, Surgeon, Chelsea Hospital for Women, L G Phillips, M S, F R C S, Assistant Surgeon, Hospital for Women, Soho, and C S Lane Roberts, M S, F.R C S, Obstetric Surgeon, Royal Northern Hospital Cloth Price, 18s. Pp 629, with 274 illustrations London: J. & A. Churchill, 1927

Symposium presenting technic of the well known British institution.

A Report on the Occurrence of Glass Fragments in Foods Packed in Glass Containers By George C Hancock, C B E, M R.C S Report on Public Health and Medical Subjects No 37 Paper *Price, 1s net Pp 36, with illustrations London. His Majesty's Stationery Office, 1927.*

Showing that bad glass crumbles and that powdered glass occasionally gets into food but not often enough or big enough to do many people much harm

Diet and Cancer· With Special Reference to the Incidence of Cancer Upon Members of Certain Religious Orders By S Monckton Copeman, M D, F R C P, F R S, and Major Greenwood, F R C P Reports on Public Health and Medical Subjects No 36 Paper Price, 9d *net* Pp 33 London: His Majesty's Stationery Office, 1926

Monograph proving that cancer occurs in vegetarians as well as in meat-eaters.

The Determination of Benzoic Acid in Foodstuffs By G W Monier Williams, O B E, M A, Ph D Reports on Public Health and Medical Subjects No 39 Paper Price, 1s net Pp 20, with 15 plates London His Majesty's Stationery Office, 1927

Chemical procedures necessary for detecting the presence of benzoic acid, concluding that Mohler's test is best

Dengue. Its History, Epidemiology, Mechanism of Transmission, Etiology, Clinical Manifestations, Immunity and Prevention By J F Siler, Milton W Hall, and A Parker Hitchens Paper Price, $3. Pp 476, with illustrations Manila. Bureau of Printing, 1926

Monographic report of scientific observations previously reported briefly in The Journal

Das autistisch undisziplinierte Denken in der Medizin und seine Ueberwindung Von E Bleuler, Professor der Psychiatrie in Zurich Fourth edition. Paper Price, 7 50 marks Pp 210 Berlin. *Julius Springer, 1927*

Fourth edition of important German monograph on methods of thought

The Bacteriophage in the Treatment of Bacillary Dysentery of the Flexner Type By William Fletcher, M D, M R C.P, and K Kanagarayer, L M S, D T M Paper Pp 10 Kuala Lumpur. Federated *Malay* States *Government Printing Office, 1927*

Monograph concluding use of bacteriophage solution was worthless.

City Health Administration. By Carl E McCombs, M D, National Institute of Public Administration and New York Bureau of Municipal Research Cloth. Price, $5 50 Pp 524. New York. Macmillan Company, 1927.

Guide for health officers with much sociological comment

Approaching Motherhood Questions and Answers of Maternity. By George L Brodhead, M.D, Consulting Obstetrician, Bellevue and Allied Hospitals, New York. Third edition Cloth. Price, $1 50 Pp 193 New York Paul B Hoeber, Inc, 1927.

Helpful guide in question and answer form

Zellaufbau der Grosshirnrinde des Menschen Von Dr. Constantin von Economo, Professor der Neurologie und Psychiatrie an der Universitat Wien Paper Price, 18 marks Pp 145, with 61 illustrations Berlin Julius Springer, 1927.

Ten lectures on the histology of the brain.

Die Gonorrhoe des Weibes: Ein Lehrbuch für Arzte und Studierende Von Dr. R Franz, Privatdozent an der Universität am Maria Theresa Frauenhospital in Wien Paper. Price, 12 marks. Pp 193, with 43 *illustrations Vienna. Julius Springer, 1927.*

Monograph with little new or important.

The Psychology of Mental Disorders By Abraham Myerson, M D Cloth. Price, $1.40. Pp. 135. New York: Macmillan Company, 1927

Well written essays conveying fundamental information on mental diseases.

Pioneer Medicine in Western Pennsylvania. By Theodore Diller, M D with a foreword by J. J Buchanan, M D. Cloth Price, $3. Pp 230, with 26 illustrations New York Paul B Hoeber, Inc, 1927.

Beautifully printed essay on early medical life in Pittsburgh and vicinity.

A Textbook of Pharmacology By A D Bush, B S, M D, Professor of Pharmacology, Emory University, Georgia Cloth Price, $2. Pp 182 Philadelphia P. Blakiston's Son & Company, 1927

Textbook in brief outline form

Practical Pedodontia or Juvenile Operative Dentistry and Public Health Dentistry An Introductory Text for Students and Practitioners of Dentistry By Floyde Eddy Hogeboom, D D S, Instructor in Pedodontia, College of Dentistry, University of Southern California. Second edition Cloth Price, $3 50 Pp 108, with 77 illustrations. St Louis C V Mosby Company, 1927

Surgical Anatomy of the Human Body Vol III Joints of the Lower Extremities, Chest, Thorax, Abdomen, Pelvis, Perineum By John B Deaver, M D, Sc D, LL D, Surgeon In Chief to the Lankenau Hospital, Philadelphia Second edition in three volumes Cloth Price, $36 per set Pp 763, with 159 plates Philadelphia P Blakiston's Son & Company, 1927

Lehrbuch der speziellen Pathologie und Therapie der inneren Krankheiten Fur Studierende und Aerzte I Band Von Professor Dr Med Adolf Strumpell Twenty sixth edition by Professor Dr Med et Phil Carly Seyfarth Paper Price 25 marks. Pp 870, with 170 illustrations Leipsic F C W Vogel, 1927.

Praktischer Leitfaden der Quarzlichtbehandlung bei Hautkrankheiten nebst diagnostischen und allgemein therapeutischen Anmerkungen Von Dr Med Theodor Pakheiser, Facharzt fur Hautleiden in Heidelberg Paper Price, 3 90 marks Pp 82, with 7 illustrations Berlin Julius Springer, 1927

Report on an Outbreak of Illness at Poplar Suspected to be due to Local Pollution of the Water Supply By George C. Hancock, C B E, M R C S Reports on Public Health and Medical Subjects No 41 Paper Price, 9d net Pp 18 London His Majesty's Stationery Office, 1927

Bone Sarcoma The Primary Malignant Tumors of Bone and the Giant Cell Tumor By Anatole Kolodny, Ph D, M D, Department of Surgery, State University of Iowa Cloth Price, $5 Pp 214, with 104 illustrations Chicago Surgical Publishing Company, 1927

Medical Care for a Million People A Report on Clinics in New York City and of the Six Years' Work of the Committee on Dispensary Development of the United Hospital Fund, 1920 1926 Paper. Pp 90. New York Committee on Dispensary Development, 1927

Les reflexes de posture élémentaires (Etude physio clinique). Par Dr P Delmas Marsalet, interne des Hopitaux de Bordeaux Preface des professeurs V Pachon et H Verger Paper Price, 16 francs. Pp 174, with illustrations Paris: Masson & Cie, 1927.

La vaccination preventive contre la tuberculose par le "BCG". Par A Calmette, sous directeur de l'Institut Pasteur, avec collaboration de C Guerin, A Bosquet et L Negre Paper Price, 22 francs Pp. 250, with illustrations Paris Masson & Cie, 1927.

A Comparison of the Animal Communities of Coniferous and Deciduous Forests By Irving Hill Blake Illinois Biological Monographs Vol X No 4 Paper Price, $1 50 Pp 148, with 41 illustrations Urbana. University of Illinois, 1926

El sindrome cavitario en los tuberculosos Estudio de conjunto, clinico y radiologico Por Dr Walter Piaggio Garzon Tesis presentada al concurso de la agregacion de medicina Paper. Pp 77, with illustrations Montevideo, 1925

Niederschrift uber die 16 Tagung des Gutachterausschusses fur das offentl Krankenhauswesen. Von Geheimrat Dr. Alter. Paper Pp 81 Dusseldorf, 1927.

Transactions of the Ninth Annual Meeting, 1927, of the Indiana Academy of Ophthalmology and Otolaryngology. Paper Pp. 128 Indianapolis, 1927.

The New Jersey Pharmaceutical Association—Proceedings of the Fifty Sixth Annual Session, 1926 Paper. Pp 209. Somerville, N J, 1926

La supervivencia en su aspecto medico Memoria laureada con el premio Gari Por Ricardo Royo Villanova y Morales. Paper. Pp 48. Zaragoza, 1927.

Terceiro congresso Brasileiro de hygiene, São Paulo, Novembro de 1926 Conferencias Paper Pp 86 São Paulo, 1927.

El bronce de Carrión. Por Dr Carlos Enrique Paz Soldan. Paper. Pp 26 Lima, 1927

Miscellany

PERIODIC MEDICAL EXAMINATIONS

Mr. Neville Chamberlain, minister of health of England, received a deputation from the People's League of Health which submitted the following resolutions:

1. The establishment of periodic medical and dental examinations of all persons insured under the national insurance laws is urgently called for, as an economic proposition, having regard to the return so to be obtained in health and productive efficiency. Every such insured person, when accepted as a patient on a physician's panel, shall be by that physician medically examined, and the result of that examination placed on record. Preliminary examination should apply also to dental examination, when that additional benefit is included and available under the national insurance laws.

2 In view of the fact that there are over 1,643,700 unemployed persons, excluding minors, at the present time in the country, the government is urged to consider the effect of unemployment and the dole (unemployment insurance benefit) on the health and habit of the nation, from both the psychologic and the physiologic aspects.

Prof. P. S. Lelean spoke of the enormous saving of life and money consequent on the earliest possible detection of incipient disease. As the result of examination, it had been found that 80 per cent of the children in Glasgow were in need of dental treatment. Of 4,500 children examined in Glasgow, only twelve were found to have sound teeth Even in the better-class university population in America, 91 per cent required dental treatment. In cancer, by early consultation and treatment, the number of cases requiring immediate attention had been reduced by 50 per cent, and the proportion of malignant tumors by a similar amount In Framingham, Mass., periodic examination had been carried on in an industrial center, with the result that they had reduced the prevalence of tuberculosis by 55 per cent in ten years. Dr. William Hunter, representing the Royal College of Physicians, said that since he had emphasized the importance of eliminating small septic foci there had been a marvelous improvement in the condition of the teeth, the ears, the nose and the throat of the people. Mr. E Laming Evans said that many operations could be avoided if the detection of early symptoms of certain diseases were possible. Dr. C. S. Myers referred to the taking of electrocardiograms, which provided an early diagnosis in heart trouble, and enabled employers to transfer men from arduous to less arduous labor. In one case he had pointed out that their diagnosis was far ahead of their treatment, and an employer had replied that it gave him a chance of saving men by transferring them to other occupations in heart disease, lung disease and tuberculosis

The minister of health said in reply that the common basis of all the speeches was that an early, followed by a periodic, examination of the population would reveal actual or potential disease which could be treated in its early stages This had been particularly illustrated by the experience with children, in whose case a system of examination had already been instituted and had been followed by a material improvement in health and physique. He rather questioned, however, whether the deputation sufficiently appreciated the difference between children and adults. The former were under control and were obliged to attend school, where a medical examination was easy. The latter were not compelled to resort to any given place at any given time, and might resent any attempt to force a medical examination on them. He wondered how many of the deputation themselves were periodically examined, and how often. One member of the deputation had suggested that the examination need not be compulsory, but might be voluntary. There was nothing to prevent people being medically examined now if they wished, but the suggestion of the deputation was that a system of examinations should be applied to the whole of the insured population; but it was not possible to graft on to a compulsory scheme of insurance a voluntary benefit. Experience showed that such benefits were taken advantage of by those for whom they were most costly to provide, and had to be paid for by the rest of the insured community. The question of cost had been touched on lightly by the deputation, but it concerned him very much. A periodic examination of insured persons would be costly; even if the examination were to take place every five years that would involve the examination of 2½ million people every year, which, omitting Sundays and holidays, amounted to roughly one a day for every panel physician. Allowing time for the physician to make a record of what he found, he imagined that the examination would take less than half an hour, and panel physicians were already finding that the demands made on them by their patients were increasing. This additional service could not, therefore, possibly be undertaken without additional cost, and in the present financial circumstances of the country this was an extremely important aspect. There was also a feeling among approved societies that there were other additional benefits to which a preference should be given. Something was already being done on the lines they desired. Provision had been recently made in connection with the additional benefit schemes of approved societies which covered the dental treatment of practically the whole of the insured population. While he would be misleading them if he let them think that he regarded their proposal as practicable, he did accept it as an ideal to be worked toward and said the way to reach it was by the education in health matters which was carried on, for instance, by the People's League of Health. He hoped they would not regard his reply as unsympathetic.

REFORM OF DEATH CERTIFICATION

The death certification law in England has been in force since 1874.. Legislation to remedy defects in the system as disclosed by experience recently came into force. The new act prohibits disposal of the body except on the registrar's certificate or coroner's order and establishes a system that should make impossible the use of a certificate given for the burial of one person for the burial of another. Stillbirths will be made registerable, which will stop the burial of children born alive as stillborn. The practice of handing the death certificate to the relatives is abolished: the physician must post it direct to the register. The former practice enabled certificates to be used by the unscrupulous for improper purposes and also tended to avoidance by the physician of stating such conditions as syphilis or alcoholism on his certificate, though they might have been important in the causation of death. A new form of medical certificate is being issued for the use of physicians. It shows many important modifications, which were drawn up after consultation between the registrar-general and representatives of medical bodies with the object of making the records of the causes of death more exact. The certifying physician must have been in attendance on the deceased during the last illness, and no other may sign the certificate on his behalf. Physicians are asked to use as far as possible only those terms recognized in the nomenclature of the Royal College of Physicians of London. The use of vague and ill defined terms is deprecated. An alphabetical list of such terms is appended with comments indicating in what respect the term is unsatisfactory and what further information as to the cause of death is required in each case. When an indefinite term has to be used because more definite information is lacking, physicians are asked to indicate this fact in the certificate. The word "idiopathic" will be understood as indicating that the probable cause of the condition stated is unknown; e. g., idiopathic atrophy, idiopathic convulsions, idiopathic peritonitis.

In a majority of cases only one cause of death need be stated. When two or more causes are entered, the distinction between "primary" and "secondary" made in the old certificate is no longer called for, as it was found to give rise to confusion. The present form of certificate is divided into two sections (I and II). In I should be entered the immediate cause of death and any morbid conditions that led up to it, the latter being stated in order backward from the immediate to the remoter causes. In II should be entered conditions not in the chain of pathologic events which have led to the immediate cause of death but which have none the less contributed seriously to the fatal issue. Examples are given to make these points clear. Thus, I. (*a*) Bronchopneumonia; (*b*) operation; (*c*) strangulated inguinal hernia. II. Chronic interstitial nephritis. When possible, it should be stated whether the condition was acute or chronic. It is suggested that the physician should first consider whether the essential features of the case cannot be epitomized by statement of a single cause—e. g., pulmonary tuberculosis—and that when entry of more than one cause is required he should next consider whether the conditions specified were or were not of independent origin, and indicate this by entry in the appropriate space. If either this distinction or that implied by order of entry under I cannot be made, the fact should be stated. Some points arise in regard to special causes of death: (*a*) Cancer. Attention is particularly directed to the request that the seat of primary occurence should be returned in all cases in which known. (*b*) Childbirth. Whenever parturition or pregnancy has been in any way a contributory cause of death, the fact should be mentioned. All diseases arising therefrom should be described as puerperal; e. g., puerperal eclampsia, puerperal septicemia, distinguishing in the latter case between septicemia originating in abortion and in childbirth. In every case of death by violence or by suspected violence, whether the death resulted from the violence itself or from a pathologic state induced by it, the verdict should state the form and means of violence, its accidental, suicidal or homicidal nature, and the nature of the injury. When death occurs during anesthesia or is in any degree attributable thereto, the nature of the anesthetic used should be recorded.

In all cases of sudden death or death under any circumstances of suspicion wherein the duty of informing the coroner is not by statute imposed on any particular person, it is the duty of those who are about the deceased to give immediate notice to the coroner or to the police. Some doubts have existed as to the duty of physicians to give certificates of cause of death in a case in which an inquest may take place. It is pointed out that the duty placed on a physician in attendance on the deceased person in his last illness to give a certificate of the cause of death appears to be unqualified. The practice of refraining from giving a medical certificate of cause of death when the case is being reported to the coroner was strengthened by a fear that, if a medical certificate is given, the death may forthwith be registered and the body buried before an inquest can take place. "Statement A on the back of the certificate has accordingly been included to obviate any such risk. If the physician when giving a certificate is also reporting the case to the coroner and accordingly initials statement A on the back of the certificate, the registrar will suspend the registration of the death until he learns from the coroner whether an inquest is or is not to be held. Cases occur in which the physician, when certifying the cause of death, is aware that some postmortem or laboratory examination is about to take place or is in progress, from the results of which some further information may become available which will be of value for statistical purposes. Provision is accordingly made in statement B on the back of the certificate whereby the physician may give an indication that he may be in a position, if applied to later by the registrar-general, to furnish additional information for statistical purposes. On the receipt by the registrar-general of a certificate on which the physician has initialed statement B, the registrar-general will in due course request the physician to communicate any further information with respect to the death which he may be able to give.

Medicolegal

Surgical Instruments as Evidence in Abortion Case

(People v. Lee (Calif.), 252 Pac. R. 763)

The District Court of Appeal of California, first district, division 1, in affirming a judgment of conviction of the defendant on a charge of having administered a drug to a pregnant woman with the intent to procure a miscarriage, says that he contended that the trial court had erred in admitting in evidence, over his objections, certain surgical instruments found in his apartment, wherein, it was claimed, the crime was consummated. The prosecutrix had been allowed to identify certain surgical instruments found in his apartments, and, subject to his objections, they were received in evidence. Three of them, the evidence showed, were instruments used in making vaginal examinations, and another was made expressly to grasp the cervix of the uterus to bring it down into better view for examination. The surgical instruments were admissible in evidence as bearing on the question of the intent with which the medicine was administered. The instruments were found in the defendent's possession at the place where the crime was alleged to have been consummated; and, despite the admitted fact that the miscarriage of the prosecutrix was sought to be accomplished by administering medicine, it might be fairly inferred, from the testimony showing the nature of the instruments and the use to which they are put, that their use would have been probable in the subsequent treatment of the prosecutrix if she had continued to remain under the defendant's care.

Communication About Venereal Disease Not Slanderous

(New York & Porto Rico S. S. Co. v. Garcia (U. S.), 16 Fed. R. (2d) 734)

The United States Circuit Court of Appeals, first circuit, in vacating a judgment for $4,900 damages rendered in favor of plaintiff Garcia, says that one of her causes of action was for slander. It was alleged that the physician on a steamship, while acting pursuant to his duties as an employee of the defendant, said to her, in the presence of her niece and several other persons present: "You cannot embark because you suffer from a contagious venereal disease," which words were false and defamatory. It appeared that the communication complained of was made by the physician at the office of the steamship company in Porto Rico; that the plaintiff and her niece were aliens, and had sought to engage transportation, with the defendant, to New York.

According to a number of authorities, a communication of any matter in which the person making the communication has an interest, or in reference to which he has a duty, is privileged, if made to a person having a corresponding interest or duty, even though it contains matter which without this privilege would be actionable, and although the duty is a moral and not a legal one, and particularly where, as here, the communication arises out of and is incidental to a business relation between the parties. An utterance, though false, may be thus privileged, and if made in the honest belief that it is true and from no malicious motive, is not actionable. The occasion on which such a communication is made rebuts the presumption or inference of malice and casts the burden on the plaintiff to prove that there was malice in fact. It is not necessary in order to render the communication privileged that it should have been in response to an inquiry made by the plaintiff. It is enough that it was made by one having a duty to perform to a person or persons having a like interest or duty in the subject matter of the communication. The mere fact that third persons not legally interested in the communication are accidentally present and hear it will not alone take the case out of the privilege, if it was unavoidable or happened in the usual course of business affairs.

Independent of the plaintiff's request for the information, this court thinks that it was clearly the physician's duty, in view of the business relation existing between the parties, to inform her why she could not sail; that the plaintiff had a corresponding interest in the performance of that duty; and that, if any bystanders chanced to be present, their presence there happened in the usual course of business affairs, and was not due to any contrivance on the part of the defendant or the physician. Such being the case, this court regards the occasion as privileged, and holds that an instruction that "it is universally held that in actions for defamation, when the words uttered are actionable per se (by themselves), malice in law is conclusively presumed" should not have been given, as it was inapplicable to the facts in the case, misleading and improper.

Practice of Medicine—Chiropractic—Valid Law

(Louisiana State Board of Medical Examiners v. Fife et al. (La.), 111 So. R. 58)

The Supreme Court of Louisiana, in affirming a judgment perpetuating a writ of injunction restraining the defendants from practicing medicine until they procured the required certificate or license, and condemning them to pay the penalty of $100 and $50 attorney's fees provided by law, says that, as to whether or not they were practicing medicine, the evidence left no doubt that, during the time mentioned, they were treating disease and other bodily infirmities. They were not treating these by using drugs of any description, nor were they using in their practice surgical instruments of any kind. If it is essential to constitute the practice of medicine that one or the other of these be used, then this court thinks it clear that the defendants, as contended by them, were not practicing medicine. But the practice of medicine has a broader significance than that. It may consist in the application of physical force to parts of the body for the purpose of curing disease or relieving bodily ailments, and the legislature has, in part, so defined it (section 9 of act 54 of 1918). The defendants were engaged, it appeared, in using physical force, applied with the hands only, in treating disease. They were, in reality, practicing the system known as chiropractic, which is a system of adjusting the subluxated or slightly displaced vertebrae of the spinal column, by hand, for the restoration of health. To practice chiropractic is to practice medicine.

No person has a natural or absolute right to practice medicine or surgery. It is a right granted on condition. And, although a state cannot prohibit the practice of medicine and surgery, and would hardly undertake to do such a thing, still it is well established that, under its police power, it may regulate, within reasonable bounds, for the protection of the public health, the practice of either, by defining the qualifications which one must possess before being admitted to practice, and, to make these regulations effective, to require the one intending to engage in the practice, to possess, before engaging therein, a certificate showing that he possesses the required qualifications. The legislature, however, in defining these requirements, cannot prescribe, as a condition to the right to practice, knowledge of a subject which bears no relation to the practice of medicine. But this does not mean that the legislature, in exercising its power to prescribe the qualifications, which, in its judgment, one should possess to practice medicine, must make requirements such as to provide for every school of medicine that may exist, by requiring of those belonging to each particular school a knowledge only of those subjects which the theory of healing, advocated and put in operation by each school, requires. Were it otherwise, the legislature would be greatly hampered in the exercise of its power to protect the general health and the public from imposition and fraud. Every group of men who might get together and evolve some system designed to restore health would be entitled to recognition, and all that could be required of them would be evidence of good character and a knowledge of such subjects as their particular school seemed to require, although the legislature might deem with reason a knowledge of such subjects wholly insufficient to entitle any one to treat the sick. However, the legislature is not hampered by any such restriction in the exercise of its power to protect the public health.

This court's conclusion is that the defendants had no constitutional grounds to complain, by reason of the facts that, before being permitted to treat the sick, they must make it appear, in the manner prescribed by law, that they had an adequate knowledge of materia medica and surgery, and of the remaining subjects required by section 2 of act 56 of 1914, as amended by section 2 of act 54 of 1918. While materia medica and surgery are not used in the chiropractic system, still they, as well as the other subjects required by the act, as amended, bear a relation to the practice of medicine as a general science and that, in view of the fact that the legislature is not bound to recognize every school of medicine, and deal with it as such, is sufficient to prevent the act from being unconstitutional.

Nor were the defendants denied the equal protection of the laws by unjust discrimination against them in that the legislature had withdrawn, or practically withdrawn, osteopaths and dentists from the operation of the act of 1914, as amended, and had provided regulations for their admission to practice, as well as for the admission of chiropodists and trained nurses, different from those which it required for the practice of medicine and surgery, not requiring of them a full course, or none at all, according to the needs of the calling, in materia medica, surgery and other subjects named in the medical and surgical act cited, whereas it required of those desiring to practice the chiropractice system a full course in materia medica and surgery.

Requirements for Health Regulations of Penal Nature

(State v. Trask (Minn.), 211 N. W. R. 673)

The Supreme Court of Minnesota, in reversing a judgment of conviction of the defendant of keeping two horses on his premises in the city of St. Paul without first having obtained a permit from the health department of the city, says that an ordinance of the city provides that horses cannot be kept on the same lot or premises with a dwelling house "except under such conditions as may be prescribed by the health officer." That the defendant received from the commissioner of public buildings a permit to construct the building in which he kept the horses in no way relieved him from complying with the requirements of the health officer. The record, however, failed to show any oral or written regulation commanding the defendant to get a permit to keep his horses. What the record showed was that the health officer had orally adopted the uniform practice that, if there were no objections on the part of the immediate neighbors, and the building was constructed with waterproof flooring and connected with the sewer, he approved the application. It was said that such conduct was a permit on the part of the department to keep such animals. This was said to have been the custom for several years. The defendant's building did not meet these requirements. Whether the health department could make such an inflexible rule the court need not consider. It did not appear that the so-called rule or practice ever had any publicity or that the defendant knew of it. Nor does this court appreciate how a citizen could be expected to know of the existence of it. The accusation in this case was based on a failure to comply with this traditional policy. Being penal in its nature and operation, the requirement should not rest in parol (word of mouth). Such a regulation is not a public law which is conclusively presumed to be known. To permit a criminal conviction to stand thereon would lead to opportunity for oppression. This court's attention was not called to any authority that permits such procedure. It would seem that a statute or ordinance is the written will of the enacting body. It is equally important that a penal regulation be officially adopted, reduced to writing, and made a public record, so that the citizens may become informed thereof. This court's conclusions are (1) that there was no requirement for a permit as charged in the complaint; and (2) that such "conditions" as the health officer may prescribe, pursuant to the ordinance, must be specified in writing, and that his oral regulations, of which the public are not advised, cannot be the basis for a criminal prosecution. In other words, a health regulation, penal in its nature, cannot rest in parol, but must be officially adopted, reduced to writing, and made a public record.

Small Payment Not Proof that Full Service Has Not Been Rendered

(Carroll v. Metropolitan Life Ins. Co. (Mass.), 154 N. E. R. 757)

The Supreme Judicial Court of Massachusetts says that in this action on a life insurance policy the plaintiff, for the purpose of showing that a previous medical examination of the insured was not made, offered to prove that the physician who was said to have made it was paid twenty-five cents for what he did on the occasion when he took the application to the insured and made the examination, if any were in fact made in connection with the policy. The evidence was excluded rightly. The amount of money the physician received in fact for his services was not relevant evidence to prove that he did not render full service, or that such did not include a medical examination in the sense those words are used in the statute relative to cases in which policies are issued without previous medical examination.

Rulings as to Injury and Disease—Expert Testimony

(McMinis v. Philadelphia Rapid Transit Co. (Pa.), 135 Atl. R. 722)

The Supreme Court of Pennsylvania, in reversing a judgment for $15,000 damages which was rendered in favor of the plaintiff, says that in March, 1920, he was injured while a passenger on one of the defendant's cars which collided with another. At the time he was standing on the rear platform and was hurt as the result of others being thrown against him when he fell. His left leg was lacerated, and there were a few scratches on the back and chest. About three months thereafter symptoms indicating the presence of tuberculosis became apparent, and, in April, 1923, he went to a camp for the treatment of that disease. An action for damages was brought in 1921, and a year later a statement of claim was filed wherein the principal injury complained of was a weakening of the leg. That the violence suffered caused the development of tuberculosis was first averred in an amendment to the pleadings in April, 1925. At the trial, in the following year, experts were produced who gave it as their opinion that the blows received at the time of the accident caused the growth of the tuberculous condition which later became evident, or was responsible for the presence of the disease in active form.

The Pennsylvania cases have recognized the possibility of such a result flowing from bruises inflicted on the body. It is not enough, however, after the lapse of a long time to establish a mere lessening of resistance which might have caused the disease, for it cannot be said, as a matter of law, that whatever injury lowers vitality is responsible for the condition which thereafter develops. Proof is not required that the infecting germ was implanted in the body at the time of the injury, but it must be made to appear, with reasonable certainty, that the resulting condition was brought about by the act complained of. This may be shown by the opinions of qualified experts who state plainly that, in their professional views, the accident was the superinducing cause. Such evidence was offered in this case, making the question one for the jury to pass on. It was urged that the opinions of two physicians who testified were of no probative value in view of their statements that no one could positively tell whether the plaintiff might not have been in his present condition if he had not suffered any physical injury. But this court cannot say, as a matter of law, that the answers referred to, given in cross-examination, destroyed the effectiveness of their previous declarations. It was for the jury to consider the evidence of each as a whole in passing on the weight to be given to the judgments expressed.

A medical expert may testify as to the symptoms and sensations narrated by the patient for the purpose of securing a correct diagnosis, and is permitted to give his professional judgment as to effects produced by an accident, based on his own physical examination of the injured party, but not on what others have told him, even though fully advised as to the history of the case The witness cannot found his opinion merely on facts communicated and the statements heard in court If he has listened to all the evidence submitted to the jury, where not conflicting, he may express his judgment He is not competent, however to give an opinion based only on a part of the material evidence adduced, though he may be asked as to his conclusion from consideration of specifically defined portions of the testimony offered The opinion desired should be elicited by asking a proper hypothetic question In any event, where the judgment is to be based on the testimony of others, the query must assume the truth of the facts as narrated before an opinion can be given One expert in this case was not asked to form his judgment on a defined part of the evidence, or to assume the truth of that portion which he did hear Under the circumstances disclosed, his opinion as to causal connection should have been rejected, and its admission was prejudicial error, making necessary the sustaining of assignments of error

Section Defining Practice May Be Considered

(State Board of Medical Examiners v Wooding (N J), 135 Atl R 785)

The Supreme Court of New Jersey says that the defendant was charged with having violated section 10 of "an act to regulate the practice of medicine and surgery,' etc, approved May 22, 1894, as amended by act approved April 8, 1921 He was tried in the district court of the city of Orange by the judge without a jury and found not guilty The board through a writ of certiorari sought to have the judgment set aside There was no attempt by the defendant, as shown by the record to controvert or impeach the witnesses which the state produced His contention was that he could not be convicted for anything other than the practice of medicine and surgery, and that section 8 of the laws of 1915, which defines the practice of medicine and surgery, could not be considered by the court This evidently was the view taken by the judge of the district court, but the supreme court thinks that in this the district court fell into error, and reverses the judgment of the district court

Food Served at Eating Houses Not "Sold" or Warranted

(Nisky et al v Child Co (N J), 135 Atl R 805)

The Court of Errors and Appeals of New Jersey, in affirming a judgment of nonsuit in this action to recover damages for the illness of Mrs Nisky, alleged to have been caused by food (apparently oysters) eaten in one of the defendant's restaurants, says that from the earliest times a distinction has been drawn between a sale of an article and the furnishing of food at an eating house, hotel or restaurant, the latter partaking rather of the character of service, in which case the standard of liability is the failure to use that reasonable care which the circumstances require The authorities distinguishing the transaction from a sale recognize that while the food served constitutes, of course, an essential part, yet serving it cannot be regarded as a sale of goods, and this court thinks that this is the common understanding This attitude of the public mind is indicated by the familiar signs, "Meals served here," "Dinners served here," and the like The view that the service of food at eating houses has never been and cannot be regarded as a sale at common law is fortified by the absence of litigation (until quite recent years), based on a claim of warranty, which would necessarily follow if the transaction constituted a sale In no prior case in New Jersey has such a contention ever been made, and even in the states of Massachusetts and New York, from which cases strongly relied on by the plaintiff come, it remained for the modern sale of goods act to invite litigation along such lines The provision of the New Jersey sale of goods act that, 'Where the buyer, expressly or by implication, makes known to the seller the particular purpose for which the goods are required, and it appears that the buyer relies on the seller's skill or judgment (whether he be the grower or manufacturer or not), there is an implied warranty that the goods shall be reasonably fit for such purpose," does not apply to food served at a restaurant In such case the keeper of the restaurant does not warrant that the food so supplied is free from deleterious or injurious substances Food served at a restaurant imposes on the restaurant keeper the duty to use reasonable care to see that the food thus furnished shall be free from injurious substances and fit for human consumption

A Condition Amounting to "House Confinement"

(Van Dusen v Interstate Business Men's Ass'n (Mich), 211 N W R 991)

The Supreme Court of Michigan says that the plaintiff took a health and accident policy with the defendant whereby the latter is construed as having promised to pay him $25 a week for fifty-two weeks for house confinement, and $10 a week for ten weeks for nonhouse confinement, on account of sickness or disease Some years later he was found to be suffering from arteriosclerosis and having a blood pressure of 255 He gradually grew worse and finally gave up practically all business, but was not confined to the house all the time He would walk down to his store, to his physician's office and elsewhere for exercise under the direction of his physician At the close of the trial of his action to recover on the policy, the court, with the consent of the defendant directed a verdict in his favor for $60 on account of nonhouse confinement, but held that he was not entitled to anything under the house confinement clause This was based on his admission that he was not strictly confined to the house, although he was under the care of a physician most of the time But the supreme court reverses the judgment and grants a new trial, holding that the trial court was right in applying the clause of nonhouse confinement, but was in error in holding that no recovery could be had under the house confinement clause The record showed that the plaintiff, at the end of six weeks' partial house confinement, was in a very serious condition He was incapacitated for any kind of business or work He could not dress himself without help He went out on occasions for exercise on the advise of his physician He had an incurable malady, and was unable to attend the trial The supreme court thinks that the plaintiff s physical condition as shown was such as to bring him within the contract

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, Detroit, September 12 16 Dr W P Wherry, Bankers Reserve Life Building, Omaha, Secretary

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Asheville, N C, September 15 17 Dr J E Davis, 111 Josephine Avenue, Detroit, Secretary

American Electrotherapeutic Association New York, September 12 16 Dr Richard Kovacs, 223 East Sixty Eighth Street, New York Secretary

American Roentgen Ray Society, Montreal, Canada, September 20 23 Dr C L Martin, Baylor Hospital Dallas, Texas, Secretary

Association of Military Surgeons of the United States, Carlisle Barracks, Pennsylvania, October 6 8 Dr J R Kean, Army Medical Museum, Washington, D C, Secretary

Colorado State Medical Society, Glenwood Springs, September 6 8 Dr F B Stephenson, Metropolitan Building, Denver, Secretary

Idaho State Medical Association, Twin Falls, August 29 31 Dr J N Davis, Kimberly, Secretary

Indiana State Medical Association, Indianapolis, September 28 30 Mr T A Hendricks, Hume Mansur Building, Indianapolis, Executive Secretary

Kentucky State Medical Association Owensboro, October 3 6 Dr A T McCormack, 532 West Main Street, Louisville, Secretary

Missouri Valley, Medical Society of the, Des Moines, Iowa, September 14 16 Dr Charles Wood Fassett, 115 East Thirty First Street, Kansas City, Mo Secretary

Oregon State Medical Society, Salem, September 1 3 Dr. F D Stricker, Medical Arts Building, Portland, Secretary

Washington State Medical Association Tacoma, August 29 31 Dr C H Thomson, 508 Cobb Building, Seattle, Secretary

Wisconsin, State Medical Society of, Eau Claire September 21 23 Mr J G Crownhart, 153 Oneida Street, Milwaukee, Executive Secretary

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Hygiene, Baltimore

7: 201-391 (May) 1927

Thermophilic Bacteria in Milk. M. O. Eckford, Baltimore.—p. 201.
Parasites, Chiefly Metazoan: Feces from Koreans. R. G. Mills, Rochester, Minn.—p. 222.
Bionomics of North American Anophelines: I. Number of Annual Broods of A. Quadrimaculatus. M. F. Boyd, New York.—p. 264.
*Relative Toxicity of Benzene and Its Higher Homologues. J. J. Batchelor, New Haven, Conn.—p. 276.
Components of Death Curves: Analysis of Life Table Deaths by Causes. L. I. Dublin, E. W. Kopf and A. J. Lotka, New York.—p. 299.
Accessory Etiologic Factors in Pneumonia in Rabbits: I. Effect of Putting Brilliant Green into Nasal Passages. C. G. Bull, Baltimore, and G. H. Bailey, Baltimore.—p. 334.
*Epidemiology of Acute Rheumatic Fever and Related Disease in United States. R. M. Atwater, Boston.—p. 343.
Systemic Reactions in Rabbits Which Are Nasal Carriers of B. Lepisepticum, B. Bronchisepticus, or M. Catarrhalis. G. H. Bailey, Baltimore.—p. 370.

Relative Toxicity of Benzene.—From experiments made by Batchelor it would appear that the order of toxicity, in intraperitoneal and subcutaneous administration, decreases from a maximum with benzene down through toluene, xylene and high-flash naphtha, in the order stated; but benzene possesses special neurotoxic and hematopoietic properties which are almost wholly lacking in the case of the other solvents.

Epidemiology of Acute Rheumatic Fever.—In Atwater's opinion, acute rheumatic fever appears to be related to the family of streptococcal infections, because of bacteriologic indications, clinical resemblances and epidemiologic kinships. The trends and the oscillations are so similar as to suggest that there is a community of relationship between these diseases, and the similarity persists over a sufficient period of time, so that the relationship is not likely to prove fortuitous. A review of the epidemiology of acute rheumatic fever indicates from many angles that this disease is one of the communicable infections caused by a living parasite which gains access to the body from without, and which produces a disease picture in which the age, sex, seasonal, racial and other characteristics are fixed and very close in their resemblance to the well known epidemic diseases.

American Journal of Tropical Medicine, Baltimore

7: 149-198 (May) 1927

*Diet and Disease: II. W. E. Deeks, New York.—p. 149.
Anopheles Pseudopunctipennis as Malaria Transmitter in Argentine. N. C. Davis, Tucuman, Argentina.—p. 167.
*Isolation of Leptospiras from Water. J. H. Bauer, Nigeria, West Africa.—p. 177.
*Parathyroid Treatment of Tropical Sprue. E. A. Baumgartner, Clifton Springs, N. J.—p. 181.
*Anthelmintic Value of Tetrachlorethylene Based on Egg Counts Before and After One Treatment. L. Schapiro, Ancon, C. Z., and N. R. Stoll, Ancon, C. Z.—p. 193.

Diet and Disease.—The importance of a properly balanced diet as a preventive measure against infections and organic degenerations is stressed by Deeks, as it has a direct influence on longevity. All symptoms which suggest imperfect metabolism in the way of digestive or nervous disturbances, or of toxic absorption and excretion, should receive early attention, and the diet should be corrected before the later and graver manifestations of organic degenerations or invasion of tissues by infectious organisms ensue. When these develop, in most cases all that can be expected is an amelioration of symptoms and an arrest of the progress of pathologic changes—not the restoration of degenerated or diseased tissues.

Isolation of Leptospiras from Water.—The culture method is used by Bauer. The medium consists of filtered water, 200 cc.; 2 per cent nutrient agar, melted and cooled to 45 C., 20 cc.; fresh defibrinated guinea-pig blood, from 2 to 3 cc. By using this method he has succeeded in isolating twelve strains of leptospiras from twenty-nine samples of water collected from various sources in Lagos and the vicinity. In addition to the leptospiras, a number of different types of spirochetes have been obtained in pure culture.

Parathyroid in Treatment of Sprue.—Three cases of rather severe sprue are described by Baumgartner, who gives details of blood calcium studies, with charts of these, and a comparison of calcium lactate and parathyroid therapy, diets and blood picture. It would seem that the dry extract of parathyroid is not as impotent as has been maintained by some, and that it may even be dangerous as a therapeutic measure if carried out over a long period.

Anthelmintic Value of Tetrachlorethylene.—Schapiro and Stoll are of the opinion that tetrachlorethylene as a remedy for hookworm disease merits further trial. Test treatment of fourteen patients gave a reduction in egg output of 93 per cent with 3 cc., and of 88 per cent with 2 cc. Under field conditions, with adult doses of 3 and 2 cc. the reduction was 81 and 77 per cent, respectively. Fractional doses of tetrachlorethylene gave a reduction of 53 per cent. The combined treatment with tetrachlorethylene and chenopodium gave an efficiency of 75 per cent.

Annals of Clinical Medicine, Baltimore

5: 993-1059 (May) 1927

Digitalis Therapy. W. A. Bastedo, New York.—p. 993.
*Treatment of Angina Pectoris by Cervical Sympathectomy. E. C. Cutler, Cleveland.—p. 1004.
*Coronary Thrombosis. A. A. Jones, Buffalo.—p. 1014.
*Dynamics of Ventricular Alternation. C. J. Wiggers, Cleveland.—p. 1022.
*Latent Syphilis as Cause of Heart Disease. R. W. Scott, Cleveland.—p. 1028.
*Treatment of Essential Hypertension. S. F. Adams and G. E. Brown, Rochester, Minn.—p. 1036.

Cervical Sympathectomy for Angina Pectoris.—Cutler concludes that at the present time the complete operation of Jonnesco on both sides offers the greatest hope of lasting relief. His own experience leads him to feel that a complete unilateral Jonnesco procedure is well borne by these patients, though it may be wise in selected cases to perform the simpler operation of superior cervical sympathectomy as a first stage prior to a later complete removal.

Coronary Thrombosis.—Jones cites six cases which demonstrate how coronary occlusion may end life when the patient is supposedly dying of some other disease.

Dynamics of Ventricular Alternation.—Wiggers states that the results have demonstrated that the condition of temporary alternation which follows a long diastolic pause is secondary to variations in diastolic filling and does not involve any abnormality of muscular function. The results suggest, but do not conclusively prove, that the more permanent alternation, which results when tachycardia occurs with an abrupt onset, may have a similar cause.

Latent Syphilis as Cause of Heart Disease.—According to Scott, latent syphilis is an important cause of death from heart failure only when it attacks the root of the aorta, leading to aortic regurgitation or coronary occlusion, or both. The disease may be clinically silent and continue as a chronic inflammation in the aorta for as long as forty-four years. In early cases, syphilis involves primarily the vasa vasorum of the adventitia—obliterative endarteritis with perivascular infiltration. The changes in the media appear to be secondary. Syphilis spreads from the aortic root to the valves by way of small vessels at the commissures. The lateral margins of the leaflets gradually become adherent to the adjacent intima producing the ultimate picture of a widened commissure—the earliest and most characteristic evidence of syphilitic involvement of the aortic valves. Free aortic regurgitation developing insidiously in an adult with a negative cardiac history and without evidence of acute infection is best regarded as syphilitic until proved otherwise. A negative Wassermann reaction does not eliminate syphilis, as 15 per cent in Scott's series gave a negative reaction. Syphilis at the root of the aorta is, in the majority of instances, a progressive lesion, and imposes a burden on the heart leading ultimately to death. After the development of frank signs of congestive failure, the prognosis is grave. The histologic changes in the myocardium are not characteristic, and to regard them as evidence of latent myocardial syphilis seems to Scott unwarranted.

Treatment of Essential Hypertension.—Adams and Brown analyze the curves showing the average response of about 200 patients with hypertension to rest, baths, nitrites and phenobarbital and typhoid vaccine. For the most part, the authors' reaction to the result of treatment of essential hypertension is not pessimistic, and they are of the opinion that the response to treatment does not warrant the black despair heretofore ascribed to it.

Archives of Internal Medicine, Chicago

39: 605-750 (May) 1927

*Weight and Physical Measurements After Thyroidectomy. W. R. Miles, Stanford University, Calif., and H. F. Root, Boston.—p. 605.
*Antithrombin Test in Typhoid. C. A. Mills, Peking.—p. 618.
*Curability of Bronchial Asthma. M. H. Kahn, New York.—p. 621.
*Etiologic Factors in Diabetes: II. J. H. Barach, Pittsburgh.—p. 636.
*Relation Between Cell Count, Cell Volume and Hemoglobin Content of Venous Blood of Normal Young Women: Determinations of Color Index, Volume Index and Saturation Index Standards. E. E. Osgood and H. D. Haskins, Portland, Ore.—p. 643.
*Metabolic Studies in Treatment of Polycythemia Vera with Phenylhydrazine. L. D. Huffman, Rochester, Minn.—p. 656.
*Acromegaly: IV. Basal Metabolism. H. Cushing and L. M. Davidoff, Boston.—p. 673.
*Addison's Disease and Diabetes Mellitus Occurring Simultaneously. J. H. Arnett, Philadelphia.—p. 698.
Congenital Ventricular Septal Defect in Man, Aged 79. E. Weiss, Philadelphia.—p. 705.
Conditions Affecting Subjective and Objective Manifestations of Hunger: Respiratory Change Due to Hunger Sensation. F. Hoelzel and N. Kleitman, Chicago.—p. 710.
*Severe Chronic Glomerular Nephritis Without Hypertension, Cardiac Hypertrophy or Retinal Changes. E. G. Bannick, Rochester, Minn. —p. 741.

Weight and Physical Measurements After Thyroidectomy.—Data given by Miles and Root on fourteen patients with hyperthyroidism after operation show that every patient increased in weight. The increases ranged from 4 to 14, averaging 9.1 Kg. The results for body length in general indicate but slight change. Certain bony body widths, which have a natural variability about midway between stature and body weight, are found to change but little when persons lose or gain as much as from 15 to 20 per cent in weight. These width diameters, notably the intercristal iliac diameter, are important in determining body-build, and should receive due emphasis in tables on normal weight.

Antithrombin Test in Typhoid.—In The Journal, Dec. 18, 1926, p. 2122, is described the antithrombin test for typhoid originated by Kitzmiller and Mills. Three changes in technic are now described by Mills. The first alteration in technic is the use of purified fibrinogen and thrombin solutions. The second change is the use of 0.1 or 0.2 cc. of the patient's serum. The third improvement consists in the taking of only a single reading of the thrombin activity of the mixtures at the end of two hours, instead of the repeated readings previously advised.

Curability of Bronchial Asthma.—In Kahn's opinion, an absolute cure of asthma is not to be expected until a method has been found which will alter the chromosomal constitution either in the adult or, more radically, in the genetic cells.

Etiologic Factors in Diabetes.—The relative frequency of all preceding infectious diseases in 1,530 patients was studied by Barach. Investigation of a group of patients with pulmonary infection shows that such persons suffer most frequently from tonsillitis, acute colds and pneumonia. A group of patients with gastro-intestinal diseases shows excess in the number of operative conditions, such as appendicitis, and gallbladder, gastric and duodenal complications. The diabetic patients showed a marked increase in the number of cases of chronic tonsillar disease and typhoid fever. Barach concludes that in chronic tonsillar disease repeated strain on the insulin-producing tissues, as must occur with each fresh attack, undoubtedly has its injurious effect. The continued effect of a chronic infection is less apparent. Typhoid is an acute infectious disease of such duration and severity as could be the cause of permanent injury to the pancreas and other tissues.

Normal Blood Studies.—Osgood and Haskins determined that the actual average red cell count in 100 women from 18 to 30 years of age was 4.8 million, 90 per cent of the counts falling between 4.3 and 5.3 million. Their previous work showed an average count of 5.4 million in 137 men (from 19 to 30 years of age), with 90 per cent falling between 4.7 and 6.1 million. The average total hemoglobin per hundred cubic centimeters of blood in young women is 13.7 Gm., with 90 per cent of the results falling between 12 and 15.5 Gm. In men the average was 15.8 Gm., and 90 per cent of the results fell between 14 and 18 Gm. The various indexes (color, volume and saturation) will average 1.0 in normal young adults if they are properly calculated and are based on accurate estimations of cells, hemoglobin and cell volume. About 90 per cent of the results will fall between 0.9 and 1.1.

Metabolism in Polycythemia Vera Under Treatment.—Patients with polycythemia vera, who had been put on a fixed diet by Huffman, showed a negative nitrogen balance during the period of erythrocytic disintegration brought about by the administration of phenylhydrazine. An increased elimination of nitrogen of the urine in the form of urea occurred. The other nitrogen fractions of the urine were only slightly changed. The total blood volume, hemoglobin and hematocrit were reduced. The total blood nitrogen was decreased. The nonprotein nitrogen of the blood was increased. The urea fraction accounted for most of this increase, and is attributable to the production of urea in excess of the eliminative ability of the kidneys. Primary renal injury as a result of the administration of phenylhydrazine cannot be excluded. The amino-acid nitrogen of the blood was decreased. The creatinine and uric acid were only slightly changed. The serum bilirubin was increased, with the occurrence of slight icterus. The van den Bergh reaction remained indirect throughout. An increase in urinary pigment coincided with the bilirubinemia. A change in carbohydrate metabolism was not demonstrated. Serious renal or hepatic injury, or characteristic changes in the heat exchange, as indicated by the basal metabolic rate, were not observed.

Metabolism in Acromegaly.—Cushing and Davidoff assert that acromegaly is a disease which bears the same relation to pituitary insufficiency (hypopituitarism) that exophthalmic goiter bears to myxedema (hypothyroidism). It is, in other words, an expression of hyperpituitarism just as exophthalmic goiter is of hyperthyroidism. Acromegaly is often accompanied by an elevated basal metabolic rate, and the reverse condition of hypopituitarism by a subnormal rate. Acromegaly, furthermore, is often accompanied by a palpably enlarged thyroid and by symptoms suggesting thyreotoxicosis to which the increased basal metabolic rate has generally been ascribed. Operations on the chromophilic hypophysial adenoma itself in cases of acromegaly in which the basal metabolism is elevated, even in the absence of a palpably enlarged thyroid, are followed by a fall in the metabolic rate almost as uniformly and strikingly as are the operations on the thyroid in exophthalmic goiter. The authors suggest that the chromophilic cells of the anterior lobe of the pituitary body secrete a substance which not only contains the hormone of growth, but which is capable of raising the basal metabolic rate. Whether the hypophysial principle under these circumstances acts as a stimulus to metabolism directly on the tissues or only through the intermediation of the thyroid cannot as yet be positively stated, although there are reasons to believe that it may act independently.

Addison's Disease and Diabetes Mellitus Occurring Simultaneously.—The case reported by Arnett presented both the clinical and chemical evidences of diabetes mellitus, together with the pigmentation, asthenia, low blood pressure and vomiting that are characteristic of Addison's disease. Autopsy bore out this diagnosis.

Chronic Glomerular Nephritis Without Hypertension, Cardiac Hypertrophy or Retinal Changes.—Bannick reports two cases of severe chronic glomerular nephritis without hypertension, cardiac hypertrophy or retinal changes. The first patient complained of malaise, slight anorexia and some loss of weight and strength. He became profoundly weak, and began to vomit soon after eating. He died from uremia. The necropsy disclosed a chronic glomerular nephritis. The second patient was a boy, aged 15. He had an abscess in the right axilla and complained of anorexia, weakness and malaise. The breath had a uremic odor. Edema was not present; the blood pressure was 112 systolic and 70 diastolic, and a retinal examination did not reveal anything abnormal, with the exception of a slight anemia. The patient died, but a necropsy was not permitted.

Archives of Pathology & Lab. Med., Chicago

3: 921-1088 (June) 1927

*Pulmonary Embolism. J. S. McCartney, Jr., Minneapolis.—p. 921.
*Color of Skin and Corium Pigmentation. R. M. Strong, Chicago. —p. 938.
*So-Called Chronic Appendicitis. G. L. Rohdenburg, New York.—p. 947.
*Fat Content of Normal Human Thyroid. R. H. Jaffé, Chicago.—p. 955.
*Racial and Age Incidence of Cancer and Other Malignant Tumors: V. R. Pearl and A. L. Bacon, Baltimore.—p. 963.
*Bilirubin Content of Gallbladder Bile in Cholecystic Disease. H. D. Caylor and J. L. Bollman, Rochester, Minn.—p. 993.
*Effect of Repeated Injections of Parathyroid Extract on Calcification of Osteoid Tissues. W. Hueper, Chicago.—p. 1002.
Use of Calcium Chloride in Formation of Experimental Staphylococcus Abscesses. T. N. Rossides, Cleveland.—p. 1008.
Pathogenicity of Human Intestinal Protozoa. R. Hegner, Baltimore. —p. 1009.

Pulmonary Embolism.—Seventy-three cases of pulmonary embolism were found by McCartney in 9,275 necropsy records. They were divided into four groups: I A, posttraumatic, fifteen cases; I B, postttraumatic with operation in consequence of injury, eight cases; II, postoperative, thirty-one cases; III, postpartum, three cases; IV, medical, sixteen cases. In the postoperative group, wound infection was present in seventeen cases. In twenty-seven of the thirty-one postoperative cases, embolism occurred during the first two weeks.

Color of Skin and Corium Pigmentation. — In this case, Strong noted that an abnormal occurrence of melanophores was found in the superficial corium. The epidermis was practically devoid of pigment. In normal human skin, a yellow component is contributed by discrete melanin granules in the epidermis. When the epidermis contains little or no melanin pigment and there is much melanin packed closely in masses in the corium, a bluish cast to the skin may be expected. Many cases of Addison's disease show an increased corium pigmentation. Some of these have little or no pigment in the epidermis, and the skin then has a bluish cast. In such cases, the melanophores occur largely or entirely in the papillae of the corium.

Chronic Appendicitis.—The histologic material on which Rohdenburg's paper is based consists of 3,214 appendixes. Productive inflammation of the appendix occurred in 42 per cent of the specimens. There were twenty-one cases of tuberculosis; twelve cases of carcinoma; one case each of lipoma, polyp and diverticulum; 1,374 cases of productive appendicitis; 1,275 cases of acute suppurative appendicitis, and 437 cases of acute catarrhal appendicitis.

Fat Content of Normal Thyroid.—Seventy fresh thyroid glands from persons varying in age from 22 hours to 86 years were examined by Jaffé. All the thyroids except six (from children, aged 22 hours, 4 days, 5 days, 6 weeks, 3 months and 11 months, respectively) contained fat. There was little fat in the glands of nine children whose age ranged from 6 months to 13 years. The thyroid of a girl, aged 15 years, who died of acute encephalitis, showed a large number of fat droplets in the epithelial cells. In the other cases the amount of fat varied greatly, dependent not only on age but also on other conditions. Generally speaking, the glands rich in lipins were more common after the fortieth year than earlier. But even in very old people, a thyroid with little fat was found occasionally. On the other hand, glands with much fat were not exceptional in persons under 30 years of age. Diseases do not seem to influence the fat content. Under the same pathologic conditions, all possible grades of fat accumulations may be observed. Thus, of eleven cases of carcinoma, three presented thyroids with little fat, two with medium amounts and five with large quantities. In the same thyroid, and even in the same vesicle, the individual epithelial cells show differences in the lipoid content. Cells with little fat border on cells crowded with it.

Racial and Age Incidence of Malignant Tumors.—In a total of 6,670 necropsies analyzed by Pearl and Bacon, some form of malignant tumor was found in 12.2 per cent of the cases. Carcinoma occurred much more frequently than did malignant tumors which were not carcinomas. Malignant tumors of all sorts taken together occur from two to three times more frequently, relatively, among white persons than they do among colored persons, and more frequently, relatively, among females than they do among males. Persons with carcinoma die at a much higher average age than those with sarcoma (or other noncarcinomatous malignant tumor). The colored persons who die with malignant tumors tend to do so at an earlier age, on the average, than do white persons, and females tend to die at an earlier age than do males.

Bilirubin Content of Bile in Diseased Gallbladders.—The bilirubin content of bile from 105 diseased gallbladders was compared by Caylor and Bollman with the anatomic changes in these organs. Certain pathologic conditions of the gallbladder are accompanied by definite alterations of the bilirubin content of the gallbladder bile. In these conditions the organ as a whole is affected. In acute inflammatory cholecystic disease, empyema, hydrops (cystic gallbladder) and contracted gallbladder, the concentrating activity is absent. In cholecystitis with papillomas, associated with hypertrophic rugae, the concentration of bile is definitely increased. Between these two extremes, a wide variation of the bilirubin content is found.

Relation of Parathyroid Extract to Calcification.—Hueper states that repeated injections of parathyroid extract apparently stimulate the production and calcification of osteoid tissue. Necroses seen in the myocardium and in the cortex of the suprarenal gland after the repeated administration of parathyroid extract point to the dangers connected with its therapeutic use.

Boston Medical and Surgical Journal

196: 763-802 (May 12) 1927

Duodenal Atresia and Stenosis in Infancy. A. Thorndike, Jr., Boston. —p. 763.

196: 973-1030 (June 16) 1927

Group Practice. P. E. Truesdale, Boston.—p. 973.
Lister: 1827-1927. D. Cheever, Boston.—p. 984.
*Glycerol-Cholesterol Precipitation Reaction in Syphilis. W. A. Hinton, Boston.—p. 993.
*Dermatitis Following Intramuscular Injection of Bismuth Compounds. J. L. Grund, Boston.—p. 996.
Avulsion Fracture of Os Calcis. H. G. Lee, New Haven, Conn.—p. 1000.

196: 1075-1122 (June 30) 1927

Surgical Aspects of Pancreatic Disease. J. B. Deaver, Philadelphia. —p. 1085.
Relationship Between Posture and Ptosis. F. E. Wheatley and H. Moore, Boston.—p. 1089.

Glycerol Cholesterol Precipitation Reaction in Syphilis.—Hinton has found that Wassermann-positive serums would completely precipitate or, serologically speaking, agglutinate a suspension of cholesterol in a glycerinated hypertonic solution of sodium chloride containing the merest trace of beef muscle extract, and would leave a water-clear fluid containing distinct masses of cholesterol, while Wassermann-negative serums would leave the suspension visibly unchanged (evenly turbid), or at most with such finely divided flakes that the fluid appears turbid. The addition of glycerol evidently contributes to the precipitating effect, resulting, in the case of Wassermann-positive serums, in the formation of large aggregates of cholesterol with a consequent complete clearing of the fluid. It was further found that glycerol protected the cholesterol suspension against adventitious agents which otherwise would disturb its equilibrium unfavorably. This protection has specifically resulted in the preparation of a suspension containing all of the ingredients ready for use which, when properly made, will keep unimpaired at least six weeks. Furthermore, the addition of the glycerol has made it possible to employ with advantage a lesser amount of alcoholic muscle extract than was used in previously described methods, and still utilize the maximum amount of cholesterol The reaction reported is said to be more sensitive, and has not given the false positive results which sometimes occurred with the Kahn test

Bismuth Dermatitis—Four cases of bismuth dermatitis are described by Grund Three manifested skin lesions essentially similar to those previously reported, the fourth presented primary skin changes totally dissimilar The value is shown in one case of treatment with fractional doses of the roentgen ray in bringing about a final disappearance of the itching remains of the eruption, after continued treatment with a solution of sodium thiosulphate

Illinois Medical Journal, Oak Park

51 421 500 (June) 1927

Education or Enlightenment of Public G H Mundt, Chicago—p 443
Treatment of Impacted Fracture Dislocation of Epiphyses H L Baker Chicago—p 445
Chronic Diarrhea W A Brams, Chicago—p 446
Diagnosis of Lung Tumors H J Isaacs Chicago—p 451
Study of Pulmonary Disease A Aikin Chicago—p 456
Tuberculosis Situation Abroad R S Berghoff Chicago—p 461
Colon A A Goldsmith Chicago—p 465
Argyria E B Freilich and M Dorne Chicago—p 467
Cutaneous Plastics J [illegible] Chicago—p 469
Case of Addison s Disease A M Butzow, Chicago—p 471
Appendicitis and General Practitioner H A Felts Marion—p 473
Early Manifestations of Mental Disease A M P Saunders Chicago—p 475
Postoperative Pulmonary Embolism J W Hamilton, Mount Vernon—p 478
Vesicovaginal Fistula F F Wisniewski Chicago—p 483
Effect of Radium in Chronic Passive Congestion of Posterior Urethra L C DuBois Chicago—p 489
Unresolved Pneumonia of Unusually Long Duration A H R Krueger, Chicago—p 491
Eye Lashes Sign R Lemchen Chicago—p 494

Argyria—The patient reported on by Freilich and Dorne had been taking a capsule containing bismuth subgallate, [illegible] grains (0 3 Gm) mild silver protein, 5 grains (0 3 Gm), and codeine, ⅛ grain (8 mg) four times a day for five years She gave a history of pain in the epigastrium for about five years associated with nausea and vomiting and loss of weight There was diffuse generalized blue gray pigmentation of the skin of the face, body and extremities A metallic deposit was present on the gums at the margin of the teeth The heart and lungs were normal There was some tenderness in the right epigastric region of the abdomen

Journal of Cancer Research, Lancaster, Pa.

10 · 393 490 (Dec) 1926

Transplantation of Larvae of Taenia Crassicollis Experimental Subcutaneous Cysticercus Sarcoma F D Bullock and M R Curtis, New York—p 393
Enzyme Action XLIV Comparative Lipase Actions of Some Transplantable Rat Mouse and Chicken Tumors H M Noyes, K Sugiura and K G Falk New York—p 422
*Breakdown of Hereditary Immunity to Transplantable Tumor by Introduction of Irritating Agent E Jones Boston—p 435
*Supposed Multiple Factors in Chicken Sarcoma M Cutler, New York—p 450
*Formation of Gastric Carcinoma in Albino Rats Fed on Deficient Diets Y Fujimaki, Tokyo, Japan—p 469
*Botelho s Reaction for Cancer Serum M C Reinhard and K I Tucker, Buffalo—p 478
Availability of Young Chicks for Tumor Transplantation K Sugiura, New York—p 481

Breakdown of Hereditary Immunity to Tumor.—An experiment was performed by Jones to test the effect of an irritating agent in the production of susceptibility to an inoculable tumor in nonsusceptible strains of mice Sterilized, nondyed, pure wool flannel has been used as the irritant Histologic examination and inoculations of the "induced" tumors into different strains of susceptible and nonsusceptible mice indicate that growth of the original tumor has been induced through the presence of the flannel, and that the neoplasms are not growths of the host tissue

Multiple Factors in Chicken Sarcoma—The effect of chloroform on the infectivity of the Rous tumor filtrate was studied by Cutler, and an attempt was made to confirm the presence of two factors in the filtrate The extreme difficulty in reaching the proper end-point in the chloroform treatment of the filtrate, the inability to obtain a positive substitution result with any consistence, and the numerous biologic variations beyond experimental control did not permit confirmation of the presence of two factors in the Rous tumor filtrate

Deficient Diet Causes Gastric Carcinoma.—Personal observations of experimental animals lead Fujimaki to conclude that a vitamin A free diet has a certain relationship with the formation of carcinoma

Botelho's Serum Reaction for Cancer.—Serums from fifty cancerous persons and eight noncancerous persons, and from five animals, were examined by Reinhard and Tucker by means of Botelho's serum reaction All gave a positive reaction The precipitate which is formed depends on the presence of serum albumin and serum globulin Tryptophane is the only amino-acid of those examined which reacted positively

Journal of General Physiology, Baltimore

10: 623 836 (May 20) 1927

Action of Roentgen Rays on Protozoan Colpidium Colpoda H Clark, New York—p 623
Time Relations of Growth III Growth Constants During Self Accelerating Phase of Growth S Brody Columbus, Mo—p 637
Kinetics of Exosmosis of Water from Living Cells M McCutcheon and B Lucke Philadelphia—p 659
Effects of Salt Concentration of Medium on Rate of Osmosis of Water Through Membrane of Living Cells B Lucke and M McCutcheon, Philadelphia—p 665
Permeability of Membranes II Determination of Ionic Transfer Numbers in Membranes from Concentration Chains L Michaelis, R M Ellsworth and A A Weech Baltimore—p 671
Id III Electric Transfer Experiments with Dried Collodion Membrane L Michaelis, A A Weech and A Yamatori, Baltimore—p 685
Activation of Starfish Eggs by Acids II Action of Substituted Benzoic Acids and of Benzoic and Salicylic Acids as Influenced by Their Salts R S Lillie, Chicago—p 703
Relationship Between Circumference and Weight in Trees and Bearing on Branching Angles C D Murray, Cambridge, Mass—p 725
Micrurgical Studies in Cell Physiology III Action of CO_2 and Some Salts of Na, Ca and K on Protoplasm of Ameba Dubia P Reznikoff and R Chambers New York—p 731
Id IV Colorimetric Determination of Nuclear and Cytoplasmic p_H in Starfish Egg R Chambers and H Pollack, New York—p 739
Geotropism of Agriolimax E Wolf, Cambridge, Mass—p 757
Oxygen Consumption of Frog Nerve During Stimulation W O Fenn, Rochester, N Y—p 767
Kinetics of Dark Adaptation S Hecht, Naples, Italy—p 781
Hydration of Gelatin in Solution M Kunitz, Princeton, N J—p 811

New Jersey Medical Society Journal, Orange

24: 275 340 (May) 1927

Centenary of Laennec H I Harley, Atlantic City—p 275
Prolonging Existence After 70 J M W Kitchen East Orange—p 279
Keeping Normal Obstetric Case Normal A W Bingham, East Orange—p 280
Ophthalmia Neonatorum L Weiss, Newark—p 290

Northwest Medicine, Portland, Ore.

26: 227 276 (May) 1927

Prolapse of Female Genitalia G C Schauffler, Portland—p 227
Papillary Cystadenoma of Ovary 100 Cases A L Mayfield, Rochester, Minn—p 236
Mucous Polypi of Cervix Uteri C F Fluhmann, San Francisco—p 244
Sampson Tumor of Lower Sigmoid Causing Dysmenorrhea C W Sharples, Seattle—p 249
Spondylitis Deformans P N Jepson, Rochester, Minn—p 250
Commonly Confused Disabilities of Hip Joint in Children R B Dillehunt, Portland—p 254
Acrodynia Six Cases G Chown Winnipeg Man—p 257
Pediatrics in General Practice F B Evans Dover, Idaho—p 260

26: 277 326 (June) 1927

Aspects of Hypertension G F Strong, Vancouver, B C—p 277
Use of Insulin in Treatment of Certain Nondiabetic Conditions of Infancy and Childhood V W Spickard, Seattle—p 282
Basal Disease of Lungs in Children H A Rawlings, Vancouver, B C—p 284
Dick Test and Scarlet Fever Immunization H L Moon, Seattle—p 286
Lobar Pneumonia Delayed Recognition in Infants and Children G A Lamont, Vancouver, B C—p 287
*Congenital Mixed Tumor in Kidney Region L H Smith, Portland, Ore—p 289
Neuritis H L Parker, Rochester, Minn—p 290
University Health Service and Medical Profession I. N Miller, Eugene, Ore—p 298
Adenoma of Thyroid F R Menne, Portland, Ore—p 304
*Bacteriogenic Etiology of Goiter G B Leitch, Portland Ore—p 309
Tabetic Arthropathy A H Galvin, Hollywood, Calif—p 311
Depressed Forehead Following Killian Operation. Repaired by Fat Grafts J H Harter, Seattle—p 313

Congenital Mixed Tumor of Kidney.—Smith relates the case of a girl, aged 17 months, who died of a malignant dis-case. At the autopsy a small round cell sarcoma was found, probably primary in the retroperitoneal region of the abdomen; sarcomatosis (metastases occurring in the periosteum of the skull, sella turcica, sphenoid, ethmoid, left temporal fossa, right lower mandible and pleural surface of ribs); distortion of the shape of both kidneys and the pancreas by the pressure of the tumor, and marked chronic emaciation and anemia.

Bacteriology of Toxic Goiter.—The bacteriology of twenty-five toxic goiters was studied by Leitch. In not a single instance was an organism isolated which could be traced to the thyroid.

Ohio State Medical Journal, Columbus

23: 447-542 (June) 1927

Through Form to Substance. L. L. Bigelow, Columbus.—p. 472.
Relation of High Proteid Feeding to Production of Arteriosclerosis. J. E. Benjamin and C. B. Wiedemer, Cincinnati.—p. 477.
Gynoplastic Repairs of Old Lacerations Following Childbirth: 537 Cases. J. L. Bubis, Cleveland.—p. 480.
Surgical Treatment of Brain Traumas. N. W. Gillette, Toledo.—p. 483.

Oklahoma State Med. Assoc. Journal, Muskogee

20: 161-187 (June) 1927

Pellagra. F. M. Adams, Vinita.—p. 161.
Pellagra in Southeastern Oklahoma. G. E. Harris, Hugo.—p. 163.
Athrepsia (Marasmus). K. C. Reese, Tulsa.—p. 164.
Preventive Medicine in Infancy and Childhood. C. H. Hall, Oklahoma City.—p. 167.
Things Not Cardiac. F. G. Dorwart, Muskogee.—p. 168.
Treatment of Acute Rheumatic Fever. C. K. Logan, Hominy.—p. 169.
Infant Feeding with Acidified Milks. W. A. Rupe, St. Louis.—p. 171.
Quinine Hypersensitiveness Following Rectal Analgesia. C. E. White, Muskogee.—p. 174.

Philippine Islands Med. Assoc. Journal, Manila

7: 143-188 (May) 1927

Chemical Analysis of Blood in Forty-Eight Normal Individuals. I. Concepción and M. Ocampo, Manila.—p. 143.
*Unidentified Micro-Organism Isolated from Acute Vegetative Endocarditis Among Lepers in Culion. F. Solis, Culion.—p. 155.
Genito-Urinary Patient and Hospital. M. N. Tuason, Manila.—p. 159.
Pathologic Incidence of Lobar Pneumonia in Philippine Islands. J. Z. S. Cruz, Manila.—p. 162.

Bacteriology of Acute Vegetative Endocarditis.—From the blood during life, and the heart valves and other organs at the necropsy of twelve cases of acute bacterial vegetative endocarditis, Solis isolated a gram-negative bacillus with an average length of 2 microns and a thickness of 0.8 micron. The patients in whom this organism was found had specific serum agglutinins. The normal serum of lepers, as well as that of nonlepers, can agglutinate this organism at 1:10 dilution, but not at 1:20. Inoculations of massive doses of the organism into animals always gave negative results. The organism is probably related to the genus *Hemophilus* of the family Hemophilae, differing from the only three groups recognized by the Committee of the Society of American Bacteriologists in that it especially affects the valves of the heart and not the respiratory system, the conjunctiva or the genital organs.

Philippine Journal of Science, Manila

32: 421-569 (April) 1927

*Effect of Carbon Tetrachloride, Chenopodium and Thymol on Ova of Expelled Hookworms. C. Manalang, Zamboanga.—p. 507.
*Intrahepatic Administration of Drugs. F. A. Fidelino and P. A. Pañgan, Manila.—p. 557.

Carbon Tetrachloride and Tetrachlorethylene for Hookworm.—The ovicidal property of carbon tetrachloride, Manalang says, confirms its superiority over chenopodium and thymol in the treatment of ancylostomiasis. Tetrachlorethylene has also been found to be ovicidal.

Intrahepatic Administration of Drugs.—Fidelino and Pañgan assert that intrahepatic administration is at least partly intravenous or intracardiac injection. The effects of caffeine and epinephrine on the frog's heart are variable when these drugs are administered by the intrahepatic route. They may cause depression or stimulation, depending on the condition of the heart at the time of the injection. Ringer's solution and plain physiologic sodium chloride solution injected intrahepatically produce cardiac stimulation which is sometimes indistinguishable from that caused by caffeine or epinephrine. The intrahepatic administration is convenient for demonstrating the effects on the heart of cardiac depressants, the antagonism of atropine and pilocarpine and the increased tone produced by digitalis.

Porto Rico Medical Association Bulletin, San Juan

20: 1-55 (Sept.) 1926

Medical Impressions of Antilles. W. Sharpe.—p. 1.
Control of Diphtheria by Schick Test and Immunization of Susceptibles. E. Garcia Lascot.—p. 10.
Place of Dispensary in Fight Against Tuberculosis. E. Martinez Rivera.—p. 17.
Propaganda for Refrigeration of Milk in Porto Rico. J. Belaval.—p. 25.

20: 1-46 (Dec.) 1926

Intravenous Administration of Mercurochrome. J. C. Fener.—p. 7.
Semeiology of Tongue in Diseases of Digestive Tract. M. Quevedo Báez.—p. 11.
Local Anesthesia. M. Diaz Garcia.—p. 17.

21: 1-46 (Feb.) 1927

Diseases of Stomach, Liver and Pancreas. E. Vadi.—p. 11.
Hematoma of Decidua. A. Ortiz Romeu.—p. 33.

21: 1-50 (May) 1927

Pyelography. I. G. Martinez.—p. 5.
*Cancer. M. Diaz Garcia.—p. 27.
*Asthma, Hay-Fever and Other Allergic Diseases in Porto Rico. R. M. Suárez —p. 29.

Cancer in Porto Rico.—Diaz Garcia is of the opinion that cancer is a very commonly occurring disease in Porto Rico. Of 34,457 deaths occurring in 1917-1918, 397 were from cancer. In 1925, of 31,350 deaths, 494 were from cancer. Among 1,000 patients admitted to a general hospital, there were forty cases of cancer occurring as follows: stomach, eight; uterus, eight; breast, six; skin and lips, three; tongue and larynx, three; upper jaw, two; other organs, ten. Among 800 private cases, there were thirty cases of cancer occurring as follows: uterus, ten; stomach, six; breast, three; skin and lips, four; elsewhere, seven.

Hay-Fever in Porto Rico.—Suárez reports on the results of his treatment of 204 cases occurring in patients between the ages of 2 and 67 years. Thirty-five patients were less than 10 years of age. All of 62 per cent with positive skin reactions gave multiple reactions. Only one case was positive to only one substance or food. The Pirquet test was positive in two children; two had intestinal parasites. The blood calcium and the chemical reactions of the blood generally were normal in all cases. Tuna fish, silk and the pollen of Indian corn gave positive reactions in all the cases. Under treatment, 40 per cent of the adults and 80 per cent of the children treated were cured; 80 per cent of all patients were markedly improved. Suárez reports the first typical cases of hay-fever diagnosed, treated and cured in Porto Rico.

Public Health Reports, Washington, D. C.

42: 1617-1681 (June 17) 1927

Reorganization of National Health Service of Chile. J. D. Long, Washington, D. C.—p. 1617.
Recent Developments in Sewage Chlorination. L. H. Enslow, New York.—p. 1623.

Society Exper. Biol. & Med. Proc., New York

24: 733-805 (May) 1927

*Effect of Organ Extracts on Blood Regeneration. A. Jeney and J. W. Jobling, New York.—p. 733.
*Effects of Repeated Injections of Toxins of Intestinal Bacteria on Blood Regeneration in Rabbits. P. R. Sapinoso and J. W. Jobling, New York.—p. 734.
*Effect of Bile, Sodium Salts of Bile Acids, and Unsaturated Fatty Acids on Bacteriophagic Action. G. M. Kline, Albany, N. Y.—p. 735.
Structure of B. Anthracis and Reversal of Gram Reaction. J. W. Churchman, New York.—p. 737.
*Reciprocal Influence of Concomitant Infections: Syphilis and Vaccinia. L. Pearce, New York.—p. 739.
*Dietary Deficiency with Highly Purified Diets. H. M. Evans and G. O. Burr, San Francisco.—p. 740.
*Filtrability of B. Tuberculosis. R. R. Mellon and E. Jost, Rochester, N. Y.—p. 743.
Peptone Hypoglycemia. V. E. Levine, Omaha.—p. 744.
Diet and Tissue Growth: VI. Relation of Age to Renal Injury on Diet Rich in Protein. A. H. Smith, T. S. Moise and M. H. Jones. New Haven, Conn.—p. 746.

Changes in Oxygen Capacity of Blood Pigment in Rabbits Following Splenectomy. B. B. Stimson, New York.—p. 748.
Gold Preparations in Therapy. C. N. Myers, C. W. Hooper and B. Throne, New York.—p. 749.
*Carbon Dioxide and Toxin Production: Diphtheria Toxin. W. N. Plastridge and L. F. Rettger, New Haven, Conn.—p. 752.
Testicular Lesions in Rabbits Following Intraspinal Syphilitic Infection. G. W. Raiziss and M. Severac, Philadelphia.—p. 756.
*Antirachitic Activity of Monochromatic and Regional Ultraviolet Radiations. A. F. Hess and M. Weinstock, New York.—p. 759.
Proptoplasmic p_H of Living Cells. R. Chamber, H. Pollack and S. Hiller, New York.—p. 760.
Effect of Changes of Blood p_H on Reaction of Heart to Cocaine. W. Salant and J. E. Nadler, Augusta, Ga—p 762.
Feeding Experiments with Plants at Different Stages of Development: III. Synthesis of Vitamin in Plants M Karshan, F. Krasnow and B. Harrow, New York—p. 765.
Organic Heart Disease: Changes in Carbon Dioxide Combining Capacity of Blood Following Exercise. H. W. Schnutz and M. Preston, Irvington, N Y.—p. 766
Life History of Blepharisma Undulans. L. L. Woodruff, New Haven, Conn—p. 769
Inheritance of Atypical Form in Paramecium Aurelia. J. Moore, New Haven, Conn—p 770.
Precipitable Substances of B Typhosus and B. Paratyphosus B. J. Furth and K. Landsteiner, New York—p. 771.
Influence of Peptic Digestion on Protective Colloid Value of Gelatin. A. G Olsen and M S. Fine, Battle Creek, Mich—p 773.
Rôle of Viscosity in Milk Modification. A G Olsen and M S Fine, Battle Creek, Mich—p 774
Identity of Precipitin and Complement Fixing Substances in Syphilitic Serum: I. R. L Kahn, J. L Landau and E McDermott, Lansing, Mich—p. 775
*Relation of Internal Secretion of Ovaries to Cholesterol Metabolism. L Berman, New York—p. 778
Life Span of Epinephrectomized Cats E. L. Corey, New Haven, Conn. —p. 779.
Effects of Pituitary Extract on Distribution of Injected Fluid. C. E. Leese, H. R. Jacobs and H M Hines, Iowa City—p. 780.
Comparative Study of Extent of Knee Jerk and Achilles Jerk. W. W. Tuttle, Iowa City—p 782.
Experimental Study of Ovarian Regeneration in Mice H O. Haterius, Iowa City—p 784
Acid Intoxication of Suprarenal Insufficiency in Dogs. F F. Yonkman, Iowa City—p 786
Colorimetric Estimation of Hydrogen Ion Concentration of Blood. V. C. Myers and E Muntwyler, Iowa City—p. 789
Effects of Ultraviolet Radiation on Hydra R. E Deal, Iowa City.—p. 791.
Sedimentation Rate of Erythrocytes and Plasma Protein Following Prolonged Chloroform Anesthesia in Dogs. M. D. Rourke and E. D. Plass, Detroit—p 793.
Sulphate Reducing Bacteria in California Oil Waters. R. Gahl and B Anderson, San Francisco—p 796
Effect of Heparin on Anaphylactic Shock in Guinea-Pigs. O. B. Williams and F. R van de Carr, San Francisco—p. 798.
*Nonsympathomimetic Action of Ephedrine. F. De Eds and E. M. Butt, San Francisco—p 800.
Tuberculosis: XI. Neutralization of Filtrable Tubercle Toxin with Sheep Antiserum. F. Eberson, Berkeley-San Francisco.—p. 802.

Effects of Organ Extracts on Blood Regeneration.—Extracts of various organs were used by Jeney and Jobling on rabbits made anemic by bleeding. The most positive results were obtained with alcoholic spleen extracts. In every instance this extract prevented blood regeneration, and if the injections were continued the animal died.

Effects of Toxins of Intestinal Bacteria on Blood Regeneration.—Emulsions of feces from a patient with pernicious anemia were injected into rabbits by Sapinoso and Jobling. All the animals developed an anemia of the secondary type, beginning after the third or fourth injection. At times, remissions occurred in spite of the continued injections, but they were usually of brief duration. Only an occasional nucleated red cell was observed. The reticulated cells were slightly increased at times, but for the most part they remained within the normal limits. The white count remained low. Very little, if any, change was observed in the size and shape of the red cells. Practically no immunity was produced, as doubling the dose of toxin would frequently kill animals which had received many previous injections.

Effects of Bile, Bile Salts and Acids on Bacteriophagic Action.—In the studies made by Kline of the action of bile on bacteriophage, *B. coli*, *B. typhosus* and *B. dysenteriae*, Shiga and Mount Desert strains were used with bacteriophages obtained from stool filtrates and from culture filtrates. In no case was there any inhibition of the bacteriophage in the presence of bile.

Reciprocal Influence of Concomitant Infections.—The result of simultaneous inoculations of *Spirochaeta pallida* and vaccine virus has been studied by Pearce. The character of the syphilitic infection has been markedly affected by such simultaneous inoculation. With the intracutaneous injection of vaccine virus, the severity of the syphilitic process was greatly increased. On the other hand, the syphilitic infection which developed after the combined injection of vaccine virus and syphilitic material in the same testis was modified in the direction of decreased severity. The mildness of the disease in these rabbits as compared with the controls was very striking. An immunity to vaccine virus present at the time of syphilitic inoculation was also associated with alterations in the manifestations of the infection and, in general, the disease was less severe than in the controls. The reaction to vaccine virus under the condition of simultaneous inoculation with syphilitic material is accelerated and exaggerated. This was also the case in many instances in which syphilitic rabbits were vaccinated.

Dietary Deficiency with Highly Purified Diets.—To the pure diet of casein, sucrose and salts, Evans and Burr add 800 mg. of yeast plus 10 Gm. of fresh lettuce leaf, or 0.5 Gm. of fresh beef liver. Animals on this diet equal in growth the best animals on natural foods. The pure diet, when supplemented by these amounts of lettuce or liver, also allows gestation and the birth of good litters.

Filtrability of Tubercle Bacillus.—A series of twenty-one guinea-pigs was inoculated by Mellon and Jost with the Berkefeld filtrates of tuberculous material. In twelve animals so far examined at autopsy, acid-fast bacilli have been identified in the direct smears from the lung, and the inguinal and tracheobronchial glands of three of the animals. No definite evidence of tuberculosis was found by histologic methods, except in the lungs of two of the animals that reacted positively. The lesions did not differ materially from those found in the lungs of one out of twelve control animals examined.

Carbon Dioxide and Toxin Production.—Plastridge and Rettger found that carbon dioxide plays an important rôle in toxin production by preventing the destruction of the toxin, once it is formed. This is probably done by regulating the reaction of the medium.

Antirachitic Activity of Ultraviolet Radiations.—The antirachitic activity of two bands of radiations given off by the mercury vapor lamp—those less than 290 millimicrons in length and those between 290 millimicrons and 313 millimicrons—have been tested directly by Hess and Weinstock by irradiating rachitic rats. It was found that radiations shorter than 290 millimicrons, in other words, shorter than those produced by the sun, exert a more intense antirachitic effect than the most potent region of the solar spectrum. This result is in accordance with clinical experience.

Relation of Ovarian Secretion to Cholesterol Metabolism.—Pig ovary follicle fluid injected by Berman into normal female cats caused a decrease in the blood cholesterol. This decrease did not occur in male cats. Ovariectomized cats showed an increase in the blood cholesterol. This increase can be reduced by the injection of pig ovary follicle fluid; and also by the injection of ovarian extracts shown to be active by the vaginal smear method. This work shows that the ovarian hormone regulates the cholesterol content of the blood.

Nonsympathomimetic Action of Ephedrine.—It is concluded by De Eds and Butt that ephedrine is not sympathomimetic in its actions on the blood pressure, uterus and probably bronchi, the action being muscular. This and the greater chemical stability of the alkaloid suggest why its actions are better sustained than those of epinephrine.

South Carolina Med. Assoc. Journal, Greenville

23: 361-380 (May) 1927

Blood Pressure Lowering Effect of Cucurbocitrin in Man. G. R. Wilkinson, Greenville.—p. 366.

23: *379-410 (June) 1927*

Observations in European Clinics. O. B. Mayer, Columbia.—p. 382.
Effects of Autonomous Tumors. K. M. Lynch, Charleston.—p. 388.
Chronic Duodenal Ielus. D. P. .D. Wilkie, Edinburgh.—p. 393.
Principles of Syphilotherapy as Applied to Eye. J. H. Stokes, Philadelphia.—p. 395.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Actinotherapy, London

2: 21-40 (May) 1927

*Treatment of Rickets with Irradiated Cholesterol. R. Aidin.—p. 24.
*Ultraviolet Radiation and Diet. S. Churchill.—p. 27.
Evolution of Man's Knowledge of Light. R. C. Macfie.—p. 29. C'en.

Irradiated Cholesterol in Rickets.—Aidin states that the solar ultraviolet rays acting on the skin produce a photochemical change in some substance in the skin that acquires antirachitic properties. The nature of this substance is as yet a matter of conjecture, but the available evidence suggests that it is similar to or identical with the vitamin-precursor of the laboratory. Whatever the substance in the skin is that acquires antirachitic properties, it is certain that it is absorbed by the blood and, acting like a hormone controls the metabolism of the body, particularly the deposition of calcium in the bones. Whether the skin itself forms the vitamine-precursor is unknown; it may be that the liver which is rich in cholesterol forms the vitamin-precursor, which is carried by the blood stream to the skin, and is there activated. If this hypothesis is correct, the skin resembles a ductless gland, pouring out a hormone into the blood. This function of the skin is active during the period of rapid growth in infancy and early childhood, and again perhaps at puberty.

Ultraviolet Radiation and Diet.—Cholesterol activated in vitro and administered by mouth is found to have antirachitic properties. Irradiation of any of the vitaminless oils containing sterols similarly gives them antirachitic properties. The latest researches show that ergosterol can be activated by artificial ultraviolet irradiation and that it will, in very minute quantities, enable rats to grow up free from rickets when fed on a vitamin-free diet. Churchill feels that more evidence would be advisable on this point before feeding young children solely an irradiated diet, free from vitamins.

British Journal of Dermatology and Syphilis, London

39: 187-240 (May) 1927

*Intolerance to Sugar as Factor in Production of Dermatoses. G. G. Campbell and J. F. Burgess.—p. 187.
Epithelioma Adenoides Cysticum. N. Paul and K. Inglis.—p. 195.
Scleroderma and Syphilis. E. Murray-Will.—p. 201.

Sugar Intolerance Causes Dermatoses.—Campbell and Burgess assert that the temporary rise in the blood sugar which occurs in those who exhibit intolerance to sugar is also concerned in the prodution of skin lesions, mainly of the dermatitis type, and that a diet, restricted as regards carbohydrates, may bring about a cure of these lesions when other methods have failed. They have had one case of complete relief from senile pruritus in a woman, aged 86, and several cases suggestive of rapid cure of purulent skin lesions, such as psychosis and furunculosis.

British Journal of Ophthalmology, London

11: 209-256 (May) 1927

Parenchymatous Keratitis in Trypanosomiasis in Cattle, Dogs and Man. H. Neame.—p. 209.
Case of Sympathetic Ophthalmitis. D. J. Wood.—p. 217.
Calcium Deficiency in Blood in Spring Catarrh and Malignant Myopia. D. J. Wood.—p. 224.
Case of Sympathetic Inflammation Associated with Intra-Ocular Sarcoma. T. H. Butler and J. J. Evans.—p. 230.
Case of Emphysema of Conjunctiva. L. M. Ligertwood.—p. 233.

British Journal of Radiology, London

32: 119-158 (April) 1927

Technic and Interpretation in Cholecystography by Oral Method. W. H. Stewart and E. J. Ryan.—p. 119.
So-Called Gastric Hypertonus and Gastroptosis, and Atonic Dilatation of Stomach. A. F. Hurst.—p. 131.
Diagnostic Importance of Pneumoperitoneum. A. E. Uspensky.—p. 141.
Roentgen-Ray Diagnosis of Diseases of Diaphragm. A. E. Uspensky.—p. 143.

32: 159-198 (May) 1927

*Immediate Effects of Roentgen Rays on Living Animal Tissues. J. G. Stephens and H. Florey.—p. 159.
Calcification of Pericardium. H. W. Jones and R. E. Roberts.—p. 167.
Esophageal Obstruction from Diverticulum. J. V. Sparks.—p. 172.
Skiagrams of Full-Time Ovarian Pregnancy. T. I. Candy.—p. 175.
Dermoid Cyst of Back Containing Teeth. C. B. Fuller and F. F. C. Jagger.—p. 176.
*Fractures of Wrist Joint. C. C. Anderson.—p. 179.
Case of Incomplete Patellar Ossification. J. B. Higgins and H. M. Morris.—p. 180.

Effects of Roentgen Rays on Tissue.—The possibility of ultraviolet fluorescence excited within the tissues by roentgen rays is considered by Stephens and Florey as a possible mechanism operating in the production of effects by roentgen rays. No immediate fall of blood pressure or alteration in respiratory rate occurred during prolonged irradiation. It is suggested that previous results are explicable as due to electrical leakage, and not to the action of roentgen rays.

Fractures of Wrist Joint.—Anderson reports a case of fracture of the trapezium caused by hyperextension of the thumb, and one of fracture of the cuneiform caused by compression while cranking an automobile.

Edinburgh Medical Journal

34: 253-320 (May) 1927

Skull of Mongolian Imbecile. D. M. Greig.—p. 253. (To be continued.)
*Bearing of High Blood Pressure, Glycosuria and Albuminuria on Performance of Operations. A. E. Maylard.—p. 275.
*Substitution of Flocculation Test for Wassermann Reaction. H. F. Watson.—p. 291.

Bearing of Blood Pressure on Operations.—Maylard concludes that modern surgery, considered in its most comprehensive meaning, admits of patients being treated by operation for any expedient and even necessary reason, with but little fear of any untoward result consequent on the existence of any of these three special symptoms. "Modern" surgery is the adoption of adequate preoperative, operative and postoperative measures suited to each condition.

Flocculation Test for Syphilis.—Watson tested 1,211 serums from both syphilitic and nonsyphilitic patients by the Wassermann and flocculation methods. There was agreement in 1,173, or 96.86 per cent, and disagreement in thirty-eight, or 3.13 per cent. Of the latter, 0.41 per cent yielded positive Wassermann reactions with negative flocculation tests, while 2.76 per cent gave positive flocculation reactions with negative Wassermann tests. The discrepancies between the two reactions are discussed, and the general results tend to favor the flocculation reaction as a reliable serum test in the diagnosis of syphilis.

Indian Medical Gazette, Calcutta

62: 179-238 (April) 1927

Puerperal Eclampsia: Treatment. C. A. F. Hingston and A. L. Mudaliar.—p. 179.
Puerperal Sepsis: Bacteriology. C. A. F. Hingston and A. L. Mudaliar.—p. 182.
Use of Fishes for Control of Mosquitoes. S. L. Hora.—p. 187.
Flood and Flush Schemes—Ancient and Modern: Site of Ancient City of Gour, Malda District, Bengal: Incidence of Malaria. S. L. Sarcar.—p. 188.
Deleteriousness of Potable Spirits on Indian Market. R. N. Chopra.—p. 195.
"Dermal Leishmanoid." B. M. D. Gupta.—p. 199.
*Differential Diagnosis of Smallpox and Chickenpox. J. W. Tomb.—p. 199.
Lathyrism in Gilgit Agency. L. H. L. Mackenzie.—p. 201.
*Incidence of Tuberculosis in Calcutta. N, B. Gupta and H. K. Dutt.—p. 202.
*Causal Organism of Cholera. F. J. Palmer.—p. 204.
Case of Dermatolysis. M. Umar.—p. 208.

Diagnosis of Smallpox and Chickenpox.—Tomb bases the differential diagnosis of chickenpox and smallpox on the time interval elapsing between the "date of onset of fever" and the "date of outbreak of eruption." In the case of chickenpox, this period never exceeds twenty-four hours. In the case of smallpox, the interval always exceeds forty-eight hours.

Incidence of Tuberculosis in Calcutta.—Out of 1,330 persons subjected to the Pirquet test by Gupta and Dutt, 501 gave a positive reaction. The percentage of positive reactions was greater in the Bengalis (37 per cent) than among the other castes (26 per cent).

Causal Organism of Cholera.—An intensive study made by Palmer of films from more than sixty cases of clinical cholera leads him to assert that there is no evidence that the comma bacillus plays any part in its causation. On the evidence of films, clinical cholera in Cachar would appear to be associated with a small coccobacillus which often assumes a bipolar staining form. Whether this is identical with the small spore-bearing bacillus is not yet certain. The other organisms present, such as spirochetes, are not constant, and probably represent secondary growths in rice water fluid of organisms which find conditions suitable for their rapid growth. Clinical cholera in Cachar has been found associated with infection, presumably due to pig's feces.

Indian Medical Record, Calcutta

47: 97-128 (April) 1927

Tuberculosis in India. G. C. Chatterjee.—p. 97.
Case of Cerebral Malaria with Loss of Speech. I. S. Dave.—p. 100.

Journal of Laryngology and Otology, Edinburgh

42: 293-364 (May) 1927

Spreading Osteomyelitis of Skull. D. M'Kenzie.—p. 293.
Congenital Absence of Tympanic Element of Both Temporal Bones. D. M. Greig.—p. 309.
Case of Congenital Deafness, Showing Malformation of Bony and Membranous Labyrinths on Both Sides. J. S. Fraser.—p. 315.
Graphic Method of Representing Tuning Fork Tests. C. S. Hallpike.—p. 322.
Malignant Disease of Orbit. J. A. Gibb.—p. 328.

Journal of State Medicine, London

35: 249-310 (May) 1927

Medical Examinations and Welfare in Cotton Factories. W. F. Dearden.—p. 249.
Classification of Symptoms of Pulmonary Tuberculosis. S. V. Pearson.—p. 259.
Aspects of Tuberculosis Problem in Industrial City. G. B. Dixon.—p. 266.
Vocational Selection from Point of View of Welfare Worker. J. B. Longmuir.—p. 278.
Legal Protection of Woman Worker. R. F. Lyne.—p. 287.
Industry and Smoke Abatement. M. A. C. Brereton and I. M. Horobin.—p. 293.

Medical Journal of Australia, Sydney

1: 595-630 (April 23) 1927

Anesthesia and Newer Anesthetics: Ether. R. Howden.—p. 596.
Id.: Intratracheal Administration of Ether. F. W. Green.—p. 598.
Id.: Nitrous Oxide and Oxygen. W. S. Newton.—p. 599.
Id.: Ethylene and Oxygen. G. L. Lillies.—p. 601.
Dr. William Palmer, Poisoner. F. K. Norris.—p. 604.
Food Supply for Natives in Papua. W. M. Strong.—p. 607.
*Ectopic Pregnancy in Three Sisters. W. L. Crowther.—p. 610.
*Sequel to Fracture of Elbow. S. Goldberg.—p. 611.
Carcinoma of Right Lung. H. T. Illingworth.—p. 611.

1: 631-666 (April 30) 1927

Treatment of Congenital Spastic Paraplegia by Sympathetic Ramisection. N. D. Royle.—p. 632.
Blood Pressure in Leg in Aortic Regurgitation. E. F. Gartrell.—p. 642.
Malarial Therapy in General Paralysis. R. S. Ellery.—p. 647.
Ileal Intussusception in Adult. A. Pryde.—p. 648.

Ectopic Pregnancy in Three Sisters.—Ectopic pregnancy having occurred in each of three sisters, Crowther suggests the possibility of a congenital or familial cause being present. The mother of the three women concerned had had eight children, and did not remember having had any abdominal crisis suggestive of such an accident.

Fracture of Elbow.—Goldberg reports a case of typical main en griffe following reduction of a fracture of the medial epicondyle. After four weeks of diathermy treatment there was complete recovery of both the sensory and motor functions of the ulnar nerve.

Acta Dermatologica, Kyoto, Japan

9: 321-424 (April) 1927

*Therapeutic Action of Arsphenamine Administered Intravenously by Mouth and by Rectum in Experimental Rat Bite Fever of Rabbits. S. Watanabe and M. Abe.—p. 333.
Changes in Form and Fatty Infiltration of Epithelial Cells of Frog's Peritoneum in Vitro Cultures. H. Mitsuhashi.—p. 335.
Culture of Epithelia in Vitro: II. Citiated Epithelium. S. Ishikawa.—p. 363.
Seroreaction of Experimental Framboesia. Y. Ikegami.—p. 381.
Influence of Excision of Sympathetic Ganglion on Epitheliomatous Vegetation Due to Tarring. T. Shimoda.—p. 391.
Recurring Circumscribed Edema of Conjunctiva Bulbi Sinistra in Chronic Pyelitis and Paroxysmal Tachycardia. I. Asai.—p. 399.
So-Called Callus Swelling of Schuchardt in Male Urethra. A. Fukai and S. Tajima.—p. 406.

Intravenous Administration of Arsphenamine Best.—Intravenous administration of arsphenamine yielded the best results, and rectal administration was the least effective. Untoward effects were not noted by Watanabe and Abe.

Journal of Oriental Medicine, Dairen, S. Manchuria

6: 31-51 (April) 1927

Roentgenology of Male Urethra. T. Miyata and H. Kajikawa.—p. 31.
Value of Bronchography with Lipiodol. J. Murakami, H. Nishida and T. Miyata.—p. 39.
Effect of Some Hormones on Avitaminosis of Pigeons. Y. Jono.—p. 42.
*Effect of Cold on Animal Body. S. Yamaguchi.—p. 44.
*Acidosis in Cases of Beriberi and Nephritis. H. Senga and Y. Yasutomi.—p. 45.
*Agglutination of Typhoid Bacilli with Blood Serum of Pulmonary Tuberculosis. T. Yamaguchi.—p. 46.
Lipoma of Parotid. K. Shimotsuma and K. W. Kuo.—p. 48.
Catalase Content of Blood in Chronic Morphine Poisoning. K. Sato.—p. 50.
Floating Kidney. K. Horie.—p. 51.

Effect of Cold on Blood.—Yamaguchi asserts that cold causes a distinct leukopenia, lowers the resistance of the erythrocytes and increases blood viscosity and clotting.

Cause of Acidosis in Beriberi and Nephritis.—Senga and Yasutomi believe that the cause of acidosis in beriberi as well as in nephritis is the abnormal overproduction of acid in the body rather than the disfunction of the kidneys alone.

Agglutination of Typhoid Bacilli with Tuberculosis Blood Serum.—Yamaguchi states that the blood serum in cases of pulmonary tuberculosis in all its stages agglutinates typhoid and paratyphoid bacilli in a dilution as high as 400 times. In the period which yields severe symptoms, the agglutination of the serum for typhoid bacilli is very strong, but when the symptoms diminish, the agglutination also diminishes.

Naval Medical Association Bulletin, Tokyo

16: 3-4 (May) 1927

Occurrence of Pleurisy in Japanese Navy. S. Sugawara.—p. 3.
Treatment of Pleurisy in Minato Naval Sanatorium. T. Suzuki.—p. 4.
Subcutaneous Rupture of Double Kidney. S. Kudo.—p. 4.

Okayama Medical Journal, Okayama, Japan

448: 593-770 (May) 1927

Bile Acids: Action on Heart. T. Hosokawa.—p. 593.
Electrical Investigation of Alcoholic Nerve Extract Emulsoid Particles. K. Kumagai.—p. 605.
Connections of Corpus Mamillare: I. Pedunculus Corporis Mamillaris. K. Yamagata.—p. 641.
Ileocecal Carcinoma: Etiology of Complicating Ileocecal Invagination. Y. Otsubo.—p. 668.
Blood Picture of So-Called Encephalitis Epidemica (Type B) Near Okayama. K. Hara.—p. 702.
Icterus: Lattice Fibers of Liver. I. Kurose and M. Hasimoto.—p. 717.
Diuretin Hyperglycemia. N. Sugimoto.—p. 743.

Tohoku Journal of Exper. Med., Tokyo, Japan

8: 355-500 (April 19) 1927

Comparison of Cat Paradoxical Eye Reaction and Rabbit Intestine Strip Method for Assay of Epinephrine Content of Blood of Cat. T. Sugawara.—p. 355.
Investigations on Rhodein, Active Glycoside of Rhodea Japonica Roth. T. Murashima.—p. 405.
Studies on Fluid Exchanges: I. T. Yamaguchi.—p. 449.
*Influence of Dilute Acids on Action of Digitalis Infusion. H. Takahashi—p. 491.
*Colorimetric Method for Determination of Sodium. S. Yoshimatsu.—p. 496.

Effect of Dilute Acids on Digitalis.—Takahashi states that the addition of from 0.05 to 0.1 per cent hydrochloric acid solution to digitalis infusion does not lessen its effectiveness; therefore, it is of value to make such an addition to insure the keeping qualities of the infusion.

Determination of Sodium.—A colorimetric method for the determination of sodium in 0.1 cc. of serum or blood, both ashed and unashed, is described by Yoshimatsu. This method has an average deviation of ± 3 per cent from the Kramer-Tisdall or the Kramer method. Sodium added to the serum may be recovered almost quantitatively.

Bulletin de l'Académie de Médecine, Paris

97: 605-624 (May 17) 1927

*Lesions of the Eye from Smallpox Vaccine. Delord and Villard.—p. 607.
*Repeated Vomiting in Infants. Rousseau-Saint-Philippe.—p. 612.
Cases of Treated General Paralysis from the Forensic Standpoint. H. Claude.—p. 614.
The Preclinical Stage of Neurosyphilis. P. Ravaut.—p. 616.
*Epinephrine in the Suprarenals and in Extracts. G. Mouriquand and A. Leulier.—p. 621.

Grave Lesions of the Eye Caused by a Drop of Smallpox Vaccine.—While a physician was opening a tube containing smallpox vaccine, a drop of the vaccine penetrated into his left eye. In a few hours the eye became inflamed. Three days later he presented a severe conjunctivitis with iritis, and after five days iridocyclitis which developed into glaucoma by the end of a month. The lesions gradually became worse, so that, two months after the accident, enucleation of the eye was required to avert menacing sympathetic ophthalmia. The disturbances in the remaining eye vanished rapidly after the operation. Several similar cases are recorded in the medical literature, all in members of the medical profession. The possibility of this occurrence, Delord and Villard say, should be borne in mind by those who manipulate vaccinal pulp. In case of such an accident, the eye should be washed out with an antiseptic solution so thoroughly as to make sure that not a trace of the vaccine remains.

Causes and Treatment of Repeated Vomiting in Infants.—Rousseau-Saint-Philippe found that repeated vomiting observed in infants during the first days or the first months after birth is connected with dyspepsia at least in 95 per cent of the cases. In the remaining, it is occasioned by congenital obstruction of the pylorus. The disease occurs more frequently in breast fed infants. The puerperal condition, constipation, intestinal infection, phlebitis, lymphangitis, nervous disorder, latent syphilis or tuberculosis in the mother may be responsible for the presence of an injurious substance in the maternal milk. The treatment consists in administration of alkalis, pepsin and hydrochloric acid, also ipecac and rhubarb. Inhalation of oxygen is a useful adjuvant. In cases of pyloric stenosis operation is indicated.

Epinephrine in the Suprarenal Glands and in Extracts.—Mouriquand and Leulier recall their previous experiments which showed that the amount of epinephrine was insignificant in the suprarenals of healthy guinea-pigs, removed as soon as the animals were killed. The amount was doubled or trebled when the glands were left for a day in a vacuum in the presence of sulphuric acid. Evidently, a part of the epinephrine is undetectable in fresh suprarenals. This "virtual" part of the epinephrine is not discovered by the usual reactions. In further experiments, the suprarenals were removed one day after the animals were killed. In this case, the total amount of the epinephrine (the virtual and the free epinephrine) was found to be reduced by one half or by three quarters. The results may have a practical value in organotherapy.

Comptes Rendus de la Société de Biologie, Paris

96: 581-660 (March 11) 1927. Partial Index

Potential Property of Bidder's Organ in Toads. K. Ponse.—p. 595.
*Edema Fluid in Vaccination Against Anthrax. A. Urbain and L. Rossi.—p. 599.
Nervous and Body Fluid Factors of Growth in Frogs. M. Aron.—p. 624.
*Chlorine and Sodium in Organs of Persons Without Nephritis. L. Blum and D. Broun.—p. 638.
*Chlorine and Sodium in Organs of Persons with Uremia. L. Blum and D. Broun.—p. 640.
*Pathogenesis of Uremia. L. Blum and D. Broun.—p. 642.
*Chlorine and Sodium in Organs of Persons with Diabetic Coma. L. Blum et al.—p. 643.

Edema Fluid in Vaccination Against Anthrax.—Rabbits were injected with edema fluid obtained from rabbits dead with anthrax. Then they were inoculated with lethal doses of anthrax bacilli. The animals resisted the infection. The intradermal route proved to be more effectual for the vaccination than the venous or subcutaneous route.

Chlorine and Sodium in Organs of Persons Without Nephritis.—Blum and Broun examined the organs of persons dead from various diseases other than nephritis. The content of chlorine ranged from 1 to 2 Gm. in all organs except the kidneys, in which it was over 4 Gm. The amount of sodium varied much more. There was 1 Gm. in the skin; 12 Gm. in the gray cerebral matter. The authors also measured the chlorine and the sodium in organs of twelve patients dead from uremia. Retention of chlorine was manifest in various organs; especially in the brain. It was doubled or trebled in the white matter; increased from four to seven times the normal in the gray matter. The sodium was increased or normal. Increase of chlorine in the gray cerebral matter was found in uremia with azotemia, in convulsive uremia with or without azotemia, and in acute and chronic nephritis. Evidently, chemical changes in the cerebral tissue play an important if not a predominant rôle in the pathogenesis of uremia.

Chlorine and Sodium in Organs of Persons with Diabetic Coma.—Blum, in collaboration with Grabar and Thiers, evaluated the content of chlorine and of sodium in the organs of a woman dead from diabetic coma. An increase of chlorine was present in various organs. It was highest in the gray cerebral matter. The fact suggests that insulin should be combined with sodium bicarbonate in treatment of diabetic coma.

Journal d'Urologie, Paris

23: 193-288 (March) 1927

*Guiding Principles of Urology. Marion.—p. 193.
Latent Gonococcus Infection. Durupt and Noguès.—p. 202.
Surgery of the Vesical Muscle. Richer.—p. 210.
Diathermy Plus Autohemotherapy in Treatment of Gonorrhea. V. Marselos.—p. 237.

The Leading Principles of Urology.—In a lecture delivered at the Hôpital Lariboisière, Marion listed the principles which should guide the physician in the diagnosis and treatment of genito-urinary diseases. Among them are the following: In case of obstruction of the urethral bulb, Béniqué's sound is reliable. Hematuria, occurring in patients with prostatic hypertrophy, may be attributed to the latter after all other factors have been carefully eliminated. In cases of urinary retention from prostatic hypertrophy, catheterization should be replaced by cystostomy. Spontaneous or recurring cystitis or cystitis resistant to treatment suggests tuberculosis. Catheterization of the ureters must be preceded by examination of the bladder. Roentgen rays are helpful in renal pyuria in which tuberculous infection cannot be definitely established. In cases of renal calculi, the entire urinary tract should be examined with the roentgen ray. Vaccines may be used when more radical measures cannot be employed.

Nourrisson, Paris

15: 65-128 (March) 1927

Anemias in Infants. Lesné and Langle.—p. 65.
Disseminated Gangrene of the Skin in Young Children. R. Turquety and R. Broca.—p. 88.
*Craniotabes and Rickets. A. B. Marfan.—p. 99.

Craniotabes and Rickets.—Craniotabes usually develops within the first three months of life; it may also be congenital. In the latter case, the thinned spots in the infantile skull are situated around the bregma; in the former, they are found around the lamboid suture and the asterion. The congenital as well as the acquired variety, Marfan asserts, presents the first manifestation of rickets. It is followed by other deformities of the bones. The succeeding rickets may be slight or grave, persisting for months or for years. Anatomic and histologic examination confirms the rachitic character of craniotabes. Syphilis should always be suspected, since it is the most frequent factor in early rickets. The treatment does not differ from that of rickets.

Presse Médicale, Paris

35: 689-704 (June 1) 1927

*Therapeutic Value of Synthalin in Diabetes. H. Chabanier and M. Lebert.—p. 690.
*Desensitization Treatment in Asthma. W. Spoujitch.—p. 692.

Significance of Synthalin in Treatment of Diabetes.—This substance was used by Chabanier and Lebert in nineteen cases of grave and in eight of mild diabetes. In the grave cases, synthalin was given alternately with insulin, or the two were used at the same time. Glycosuria, which vanished under the influence of insulin, reappeared as soon as insulin was replaced by synthalin. The latter caused loss of appetite, considerable loss in weight and a marked general weakness The unfavorable effect of synthalin was evident when it was given together with insulin It was found to be unsatisfactory also in treatment of mild cases The authors conclude that so far synthalin has proved to be without practical value

Desensitization Method in Treatment of Asthma.—Spoujitch's experience includes thirteen patients, aged from 22 to 75, with asthma of from two to twenty years' standing. Diphtheria antiserum was used to induce slight shocks The first injection contained from 0 25 to 0 5 cc of the serum If a reaction did not appear the following day, from 2 5 to 5 cc. of the serum were given The reaction usually occurred between the fifth and eleventh days. After this, slight shocks were induced with from 0 5 to 1 cc of the same serum once a week The injections were given subcutaneously at from seven to ten day intervals and the treatment was continued for from two or three months The attacks of asthma soon became attenuated They disappeared for from six weeks to thirteen months On recurrence, a new series of injections was given By-effects were never observed.

Schweizerische medizinische Wochenschrift, Basel

57: 481 504 (May 21) 1927

*Herpes of Cornea and Accidents A Vogt —p 481.
*Mechanism of Action of Insulin H Staub —p 483
Trichomonas Pulmonalis in Putrid Bronchitis H Marx —p 487.
Heart Rhythm in Chloroform Anesthesia E Frommel —p 490

57: 505 532 (May 28) 1927

This issue contains the proceedings of the 13th Congress of the Swiss Surgical Society, held in June, 1926 The main topic was Acute Necrosis of the Pancreas

Herpes of the Cornea and Trauma.—Injury to the eye apparently predisposed Vogt's patients to the development of the herpes of the cornea

Mechanism of Action of Insulin.—Staub concludes that insulin accelerates the oxidation of sugar and the formation of glycogen in the muscles, not in the liver. Its action on the autonomic nervous system and on glycogenolysis in the liver is antagonistic to that of epinephrine.

Policlinico, Rome

34: 745 778 (May 23) 1927

Chronic Ulcerous Colitis P. Alessandrini —p 743.
Syphilitic Cervical Adenopathy. G Lionetti —p 750.

34: 205 252 (May 15) 1927. Surgical Section

Congenital Radio Ulnar Synostosis O Pepi —p 205.
Syphilis of the Mammary Gland G. Pinardi —p 219
*Bradycardia in Injuries of the Liver G Ricciuti —p 229
The Glomeruli in Compensatory Hypertrophy of the Kidney. F Speciale. —p 234
Sarcoma of Tunica Vaginalis. P Valdoni —p 244.

Bradycardia in Injuries of the Liver.—Ricciuti confirms Finsterer's observations on absolute or at least relative bradycardia in destructive injuries of the liver (from bullets or contusions). Relative bradycardia is assumed if the frequency of the pulse is normal, when tachycardia would be expected. Increased frequency of the pulse does not exclude the possibility of injury of the liver, but bradycardia speaks strongly in favor of it A slow pulse may be present in spite of internal hemorrhage

Archiv für exp. Pathologie und Pharmak., Leipzig

121: 259 386 (April) 1927

*Narcotics and the Rotation Reflex in the Frog H. Gayer.—p 259.
*Sedatives in Experiments on Animals K Fromherz —p 273
Antagonism of Insulin and the Thyroid O Ehrismann —p 299
*Gas Metabolism in Poisoning of the Central Nervous System H Licht. —p 320.
Respiration in Dynamic Hyperthermia. H Rietschel et al —p 332
*Hepatic Circulation and Diuresis H Kunz and H Molitor —p 342.
Action of Combined Drugs E Kaer —p 358
*Quantitative and Optimal Action of Insulin. K. Holm —p 368

122: 1 128 (April) 1927

Phlorhizin Diabetes W Kempner —p 1
Blood Sugar in Phosphorus Poisoning I. Ivancevic —p 24
The Blood in Rachitic Rats E Woenckhaus —p 44
Morphine Miosis C Amsler —p 61
The Blood Picture and Nucleal Staining K Voit —p 66
Toxicology of Halogen Alkyls C. Bachem —p 69.
Determination of Bromine. F. Ottensooser.—p 77.
Detoxication in the Organism. E. Keeser.—p. 82
Tests for Pituitary Preparations. K. Csepai and S von Pintér Kováts. —p. 90
Hydrogen Ion Concentration and Solubility of Uric Acid. A Jung —p 95.
Bath for Surviving Organs S. Loewe.—p 121
"Inhibition of Exudation by Pituitary Extracts" L T. Poulsson —p 127
"Pyrogenic Substances" J. Donath and R. Heilig —p 128

Narcotics and the Rotation Reflex in the Frog.—Gayer used Gauss' rotation reflex in the frog as indicator for minimal narcotic effects. It is especially suitable for investigation of the barbital group. He also developed a sensitive method for testing narcotics on mice: a normal mouse will climb down a vertical metal rod without sliding. The animal slides down when under the influence of a narcotic.

Sedatives in Experiments on Animals.—The action of various narcotics (alcohol, pyrazolon derivatives, morphine) was tested by Franherz on mice trained to select a certain path according to its color. He made the surprising observation that disturbances of orientation occurred only when the lower motor functions were considerably affected. Before ataxia became evident, the mice made no errors in selecting the correct color.

Gas Metabolism in Poisoning of the Central Nervous System.—Licht injected 1 mg. of picrotoxin or 1.5 Gm of sodium salt of santonin per kilogram of body weight into rabbits and guinea-pigs. The oxygen consumption of these animals decreased considerably. The lowering could be prevented by section of the spinal cord between the seventh and eighth cervical segments These experiments confirm the theory that the cooling and spasm-inducing poisons act by irritation of a central nervous apparatus which inhibits exothermic processes

Hepatic Circulation and Diuresis.—Kunz and Molitor made inverse Eck fistulas in dogs. In diuresis tests these animals eliminated water more slowly and less completely than before the intervention. Urea did not cause diuresis and pituitary extracts did not inhibit it to any marked degree. They attribute these phenomena to a change in the equilibrium between assumed hydrating and dehydrating substances in the liver rather than to simple hemodynamic changes. The animals recovered their normal diuretic responses after from three to eight weeks

Quantitative and Optimal Action of Insulin.—It was found by Holm that the blood sugar of a normal dog, weighing about 9 Kg, does not decrease during a continuous injection of 0 25 unit of Dutch insulin per hour. The same amount of insulin was sufficient to keep the blood sugar normal immediately after pancreatectomy. Later on, 0.065 unit per hour was sufficient. In such a dog, the alimentary glycemia curve rises and decreases slowly, because there is no reflex increase in secretion of insulin. Epinephrine hyperglycemia from excitation is high, because it is not counteracted by an increased secretion of insulin. When the whole basal caloric requirement of the dog was covered by intravenous administration of dextrose (3 5 Gm per hour), it was necessary to inject six times more insulin (0 4 units per hour). This would indicate that the carbohydrate equivalent of insulin was 8 75 Gm. of dextrose per unit. Application of these figures to a man weighing 60 Kg would imply that 7.8 units of insulin per day would be sufficient if he abstained from food, and 48 units, if his total basal caloric requirement were covered by sugar—even if he had no pancreas He believes that the majority of experimental studies on insulin deal with insulin poisoning, not with its physiologic action.

Biochemische Zeitschrift, Berlin

183: 245 491 (April 7) 1927

Plasma Proteins W. Starlinger et al —p 245
Quinine Derivatives, Action of Enzymes and Acidity. J. A. Smorodinzew and A N. Adowa —p 274
Antagonism Between Insulin and Epinephrine B von Issekutz —p 283
Microdetermination of Dextrose B v Issekutz and J von Both —p 298.
Hydrolysis of Silk Fibroin. N. D Zelinsky and K P. Lawrowsky.—p 303.
*Blood Chlorides in Milch Cows A Krestownikoff.—p 307.
Oxidation of Pyruvic Acid B Bleyer and W. Braun —p 310
Influence of Medium on Respiration of Surviving Organs. H. Reinwein and W Singer —p 315

*B-Avitaminosis and the Suprarenals. E. Schmitz and M. Reiss.—p. 328.
Spectrophotometric Determination of Glycuronic Acid. G. Scheff.—p. 341.
Body Composition in Death from Starvation. E. Szörényi.—p. 350.
Dioxyphenylalanin in the Wings of the Dor-Bug. H. Schmalfuss and H. P. Müller.—p. 362.
Surface-Active Substances and Yeast Fermentation. H. Zeller.—p. 369.
Combined Action of Two Substances on Yeast Fermentation. H. Zeller.—p. 389.
Apparatus for Surviving Hearts of Mammals. Z. Aszódi and G. Ambrus.—p. 408.
Dialysis and Immune Substances. B. Sbarsky and K. Nikolaeff.—p. 419.
Catalase and Peroxidase in Epilepsy. I. Sachs and H. Zander.—p. 426.
Quinhydrone Electrode. I. M. Kolthoff and W. Bosch.—p. 434.
Correction Re New Series of Buffer Solutions. I. M. Kolthoff and J. J. Vleeschhouwer.—p. 444.
Silk Glue. N. Alders.—p. 446.
Yeast Fermentation and Charcoal. H. Iveković.—p. 451.
*Lactic Acid as Intermediary Product of Anoxybiotic Carbohydrate Metabolism. J. Stoklasa.—p. 461.
Adsorption and Osmosis of Alkalis into Gelatine and Lecithin. I. Suganuma.—p. 477.
Synthesis of Alpha-Keto-d-Gluconic Acid. C. Neuberg and T. Kitasato.—p. 485.

Blood Chlorides in Milch Cows.—Krestownikoff determined the blood chlorides in milch cows and in a goat before, during and after milking. In some of the experiments the concentration of the chlorides was found to be a little higher after milking than before, but the increase was rarely greater than the limits of error of the micromethod used.

B-Avitaminosis and Suprarenals. — Schmitz and Reiss injected suprarenal extract into pigeons fed on polished rice. The injections prevented the usual changes in the blood lipoids and the neuritic symptoms.

Lactic Acid as Intermediary Product of Anoxybiotic Carbohydrate Metabolism.—Stoklasa recalls his old work on the isolation of the lactic acid forming enzyme of the muscles and adds a report on his newer investigations. The beta and gamma rays of radium increase the anoxybiotic formation of lactic acid, while the alpha rays of ionium and of radon enhance the oxydative phase, in which the lactic acid disappears. He believes therefore that the rational foundation for the use of alpha rays in cancer is better than for that of beta and gamma rays.

184: 1-256 (April 27) 1927

Precipitation of Lime by Micro-Organisms. C. Naeslund.—p. 1.
Determination of Dioxyphenyl-Aminopropionic Acid and Tyrosin. H. Schmalfuss and H. Lindemann.—p. 10.
Mineral Salts and Metabolism. O. Kauffmann-Cosla and W. Zörkendörfer.—p. 19.
*Adsorption of Diphtheria Toxin by Erythrocytes. N. I. Griasnow.—p. 28.
Action of Diuretics in Allergic Conditions. L. Asher.—p. 31.
Synthesis of Vitamin B by Bacillus Vulgatus. A. Scheunert and M. Schieblich.—p. 58.
Carbon Determination. B. Lustig.—p. 67.
Iodine Metabolism. T. von Fellenberg.—p. 85.
Tryptic Digestion. E. Ehrenberg.—p. 90.
Volatile Substances in Food. J. König and W. Schreiber.—p. 105.
Secretion of Diastase. E. J. Lesser.—p. 125.
Decomposition of Illuminating Gas by Bacteria. W. Hasemann.—p. 147.
*Complement and Blood Clotting. H. J. Fuchs and M. F. von Falkenhausen.—p. 172.
Estimation of Tyrosinase. H. Haehn and J. Stern.—p. 182.
Gas Metabolism in Pigeons. O. Moltschanowa.—p. 187.
"Stimulating" Action on Single Cells. W. Heubner.—p. 189.
*Acid and Alkaline Postmortem Rigidity. L. Wacker.—p. 192.
Absorption Spectrum of the Blood. R. Suhrmann and W. Kollath.—p. 216.
Secretion of Bile. E. Neubauer.—p. 231.
Apparatus for Electrometric Determination of the p_H. F. Emslander.—p. 234.
Importance of Carbon Dioxide to the Plant Cell. A. Rippel and H. Bortels.—p. 237.
Production of Fibrinogen. F. Faludi.—p. 245.

Adsorption of Diphtheria Toxin by Erythrocytes.—Griasnow concludes that erythrocytes do not adsorb diphtheria toxin, and that investigators who have claimed the opposite overlooked the amount of water present in the emulsion of the cells.

Complement and Blood Clotting.—Fuchs and Falkenhausen believe that the complement plays a rôle in blood clotting.

Acid and Alkaline Postmortem Rigidity.—The alkaline reaction of muscles, which was noted by Kühne almost seven decades ago in starved animals, was investigated by Wacker. If the muscles contain enough glycogen, the acid valences prevail during postmortem rigidity. If the glycogen content of the muscles is depleted (by starvation or injections of strychnine or insulin) the postmortem rigidity sets in rapidly, but the reaction of such muscles is alkaline.

Dermatologische Wochenschrift, Leipzig

84: 361-388 (March 12) 1927

Analogies and Contrasts in the Pathology of Syphilis and of Tuberculosis. F. von Poór.—p. 361.
*Fatal Case of Bismuth Poisoning. J. Munck.—p. 367.
Sanocrysin Treatment of Leprosy. A. Paldrock and A. Rängel.—p. 372.

A Death from Bismuth Treatment.—A man, aged 45, received 5.13 Gm. of bismuth within eleven months. The urine was frequently examined for albumin, always with negative results. Symptoms of poisoning began with icterus and stomatitis. Later the temperature became subnormal and delirium set in. Twelve days after the onset of symptoms the patient died. Phenomena pointing especially to poisoning with the salts of a heavy metal were stomatitis with ulcerations and a dark line at the margin of the gums, nephrosis with oliguria, cylindruria and albuminuria, colitis with marked infiltration of leukocytes, fatty degeneration of the liver and of the heart muscle and emaciation. Large quantities of bismuth were found in the internal organs, particularly in the organs of excretion.

Deutsche medizinische Wochenschrift, Berlin

53: *907-952* (May *27*) *1927*

Views on General Anesthesia. H. Schlossmann.—p. 907.
Syphilis of the Liver. L. Frank and W. Worms.—p. 911.
Fibrous Perihepatitis in Syphilis. F. Peiser and W. Nissel.—p. 913.
Nonspecific Treatment of Chronic Arthritis. P. Spiro.—p. 914.
*Postoperative Acetonuria. W. Levy.—p. 916.
Treatment of Leukorrhea. A. Pinkuss.—p. 916.
Obstetric Examination. W. Fürst.—p. 920.
Mitigation of Labor Pains. E. Wehefritz.—p. 921.
Management of the Second Stage of Labor. G. Frommolt.—p. 923.
Retention of the Placenta or Its Fragments. H. Naujoks.—p. 925.
Chronic Septic Conditions. E. Fränkel.—p. 926.
Boas' Treatment of Hemorrhoids. G. Sultan.—p. 927.
Amebic Dysentery in Children. M. Buchmann.—p. 928.
*Difficulty in Learning to Read. Drenkhahn.—p. 928.
Quackery in Leningrad. I. S. Kraindel.—p. 930.
Medical Thinking. Goldscheider.—p. 931. C'cn.

Postoperative Acetonuria.—Levy noted acetonuria in excited patients even before operation. In one case, acetone appeared in the urine after concussion of the brain. He believes that the mental condition (fright and shock) of the patient has more to do with acetonuria than has anesthesia.

Difficulty in Learning to Read.—Drenkhahn, a former surgeon general, describes his own case and the troubles which he had at school because of his inability to combine the letters rapidly.

Deutsche Zeitschrift für Chirurgie, Leipzig

201: 145-288 (March) 1927

The Heart and Circulation in Cases of Arteriovenous Fistula. K. Kleinschmidt and W. Wachsmuth.—p. 145.
Embolism—Technic of the Melanin Coagulation Test. H. Killian.—p. 157.
Scabbard Trachea from Pressure by a Goiter. H. Nevinny.—p. 172.
*Renal Hemorrhages of Obscure Origin. R. Hückel.—p. 190.
*Renal Function Tests in Prostatic Hypertrophy. L. Lurz and Hammel.—p. 200.
Technic and Value of Roentgen-Ray Pyeloscopy. N. Moro.—p. 208.
Histology of Old Gastro-Enterostomy Cysts. H. Angerer.—p. 228.
*A Continent Artificial Anus. F. Mandl.—p. 243.
Sutures in Operation for Gastric Ulcer. W. Wynen.—p. 252.
Gastro-Enterostomy in Peptic Ulcer. K. Urban.—p. 255.
*The Gastric Capillaries in Peptic Ulcer of the Stomach. H. Schomberg.—p. 258.
Permanent Healing After Extensive Resection of the Small Intestines. A. Sohn.—p. 263.
Fistula of the Vitelline Duct. F. Diessl.—p. 266.
Clinical Diagnosis of Intratracheal Tumors. O. Maier.—p. 270.
Paraffin and Stearin Foreign Bodies in the Male Bladder. N. Moro.—p. 274.
Influence of Vasectomy on Hypertrophy of the Prostate. A. Henrichsen.—p. 278.
Carcinoma of the Penis and Circumcision. Sampoerno.—p. 282.

Renal Hemorrhages of Obscure Etiology.—In two cases of bloody urine from one kidney, the entire kidney was sectioned in the search for an anatomic cause. In each case a minute lesion was found in or close to the cortex; in one, rupture of an arcuate artery, in the other, rupture of a small varix. Hückel urges that the term "essential hematuria" should be dropped, and asserts the uselessness in such cases of anatomic examination that does not include the entire organ.

Renal Function Tests in Prostatic Hypertrophy.—Lurz and Hammel found the water test to be the most reliable, but must be corroborated by other tests. For the water test they administer 1,500 cc. of weak tea. They placed the greatest dependence on the difference between the highest and lowest specific gravity of the urine and on the total amount excreted. To justify prostatectomy, the difference between the highest and lowest specific gravity must be at least 15.

Utilizing Intestinal Prolapse to Obtain a Continent Sacral Anus.—Mandl induces prolapse by encouraging his patients to exert abdominal pressure. He draws the prolapsed intestine through the rectal sphincter, if this has been retained. By this method he has obtained a continent artificial anus in a number of patients. He has modified the method so that it can be used in cases in which the sphincter has not been retained, and reports the successful application of the modified operation in one case.

Microscopic Examination of the Capillaries in Resected Stomachs.—Specimens from twenty-one cases of ulcer of the duodenum and from fourteen cases of ulcer of the stomach were examined microscopically, and in all Schomberg found capillary changes significant of the "vasoneurotic diathesis."

Folia Haematologica, Leipzig

34: 1-64 (April) 1927

Is Pernicious Anemia a Constitutional Disease? Naegeli.—p. 1.
Vital Staining of Erythrocytes. C. Seyfarth.—p. 7.
Cultivation of Leukemic Blood. H. Hirschfeld.—p. 39.
*Electrostatic Charge of Blood Cells. H. Mommsen.—p. 50.

Electrostatic Charge of Blood Cells.—Mommsen investigated the staining of blood slides from the electrostatic viewpoint. The conception of oxyphilia or basophilia is only relative, since these qualities depend on the hydrogen ion concentration of the solution of the dye. The substances which accept a dye change their affinity when their iso-electric point is reached by the solution. If the solution is more acid, the substances become oxyphilic; if the hydrogen ion concentration of the solution is on the alkaline side of the iso-electric point of the stained substance, the latter becomes basophilic. Polychromophilia of the erythrocytes signifies that the immature erythrocytes carry a stronger negative electric charge. The optimum concentration for counting the polychromophilic erythrocytes is at p_H 5.65. The shape of the nucleus of the leukocytes may be a result of the relation of its electric charge to the charge of the cytoplasm. He found that neutrophilic granules of healthy subjects do not accept the dye at p_H 5.3, while it is possible to stain them with such a solution in various acute infections.

Klinische Wochenschrift, Berlin

6: *929-976* (May 14) 1927

Hemolytic Constitution. M. Gänsslen.—p. 929.
*Angina Pectoris. F. Külbs.—p. 933.
*Diabetes, Tuberculosis and Insulin. M. Rosenberg and G. Wolf.—p. 936.
Ergosterol Metabolism. H. Beumer.—p. 941.
*Movements After Section of the Spinal Cord. Danielopolu and A. Radovici.—p. 942.
*Determination of Blood Volume. H. G. Schieck.—p. 945.
Hemoglobin Changes and Water Metabolism. H. Marx.—p. 947.
Antibodies Reacting to Brain Extract in Syphilis. F. Georgi and Fischer.—p. 948.
The Stomach as Excretory Organ. H. Steinitz.—p. 949.
Prevention of Rickets. V. Bruck-Biesok et al.—p. 952.
Forearm Reflex. F. Schütz.—p. 953.
Pernicious Anemia. J. Neuburger.—p. 954.
Irradiation of Cancer of Cervix. H. Martius.—p. 956.
Recuperation. A. Schlossmann.—p. 960.

Angina Pectoris.—Three cases of angina pectoris in women, aged 36 and 41, are reported by Külbs. The attacks disappeared when the women were cured of diseases of the genital organs (endometritis and fibroid).

Diabetes, Tuberculosis and Insulin.—Rosenberg and Wolf report on forty patients with diabetes complicated by pulmonary tuberculosis. Tuberculosis as a rule lowers the sugar tolerance. Increased tolerance is rare. With large doses of insulin, the prognosis of tuberculosis in diabetic patients is the same as in nondiabetic subjects.

Movements After Section of the Spinal Cord.—Danielopolu and Radovici stimulated the peripheral end of the vagus in animals after section of the spinal cord. The irritation of the vagus was followed by movements of the paralyzed part of the body. They explain this phenomenon by the contraction of the viscera caused by the vagal stimulation and by a spinal reflex originating from this contraction.

Determination of Blood Volume.—Trypan red is preferred to congo red by Schieck. In man he found on the average a blood volume amounting to 7 per cent and a plasma volume of 3.4 per cent of the body weight. Two variables, namely the anticoagulant and the hematocrit make the exact determination of blood volume (not of plasma volume) impossible. Moreover, the blood volume is physiologically variable, as Barcroft demonstrated.

6: 977-1024 (May 21) 1927

Structure of Sympathetic System. P. Stöhr, Jr.—p. 977.
*Etiology of Weil's Disease. G. Baermann and M. Zuelzer.—p. 979.
Protein-Carbohydrate Diet in Treatment of Diabetes. R. Priesel and R. Wagner.—p. 985.
*Quinine-Fast Serum Lipase and Arsphenamine Treatment. W. B. Meyer and F. Buschke.—p. 987.
Internal Medicine and Peptic Ulcers. S. Simnitzky.—p. 991.
The Internal Ear in Whooping Cough Eclampsia. L. Singer.—p. 994.
Interpolar Ovarian Resection in Uterine Hemorrhages. F. Isbruch.—p. 995.
Heredity in Univitelline Twins. Leven.—p. 998.
*Ammonia Formation in Muscle. J. K. Parnas and W. Mozolowski.—p. 998.
*Placenta Hormone. E. Glimm and F. Wadehn.—p. 999.
*Alleged Spontaneous Cure of Intussusception. Trendtel.—p. 1000.
Intermittent Claudication. K. Mendel.—p. 1001.
Output of the Heart. R. Weiss.—p. 1004.

Etiology of Weil's Disease.—Baermann and Zuelzer recommend a diagnostic culture of 0.2 cc. of the patient's blood in 3 cc. of rabbit's serum diluted 10 to 1. The culture begins to grow in from six to thirty days. Guinea-pigs may be successfully inoculated if they are injected intraperitoneally with 5 cc. of blood on three successive days.

Quinine-Fast Serum Lipase and Arsphenamine Treatment.—Quinine-fast lipase was not found by Meyer and Buschke in the blood of syphilitic patients treated with arsphenamine. Either the drug does not injure the liver when given in therapeutic doses, or the method is not suitable for the investigation of this problem.

Ammonia Formation in Muscle.—Parnas and Mozolowski found that ammonia formed rapidly in injured muscles. The process is inhibited by a moderate degree of alkalinity. A fatigued muscle accumulates ammonia.

Placenta Hormone.—The isolation of a hormone from the placenta is reported by Glimm and Wadehn. The hormone causes hypertrophy of the uterus and provokes estrus in castrated mice.

Alleged Spontaneous Cure of Intussusception.—A woman reported to Trendtel that her child, aged 15 months, had been sick for a few days and that she had found a piece of intestine in the bed; the child had felt well since. On microscopic examination, the specimen, which had the macroscopic appearance of colon, proved to be decidua. The mother had been sleeping with the child and probably had had an abortion.

6: 1025-1072 (May 28) 1927

Development of Tumor Cell. B. Fischer-Wasels.—p. 1025. C'td.
Sea Air and Salt Baths. F. Müller.—p. 1029.
*Titration of Gastric Contents. L. Heilmeyer and W. Graubner.—p. 1035.
*Anaphylaxis and Roentgen Rays. E. Schneider.—p. 1037.
Sarcomatous Skin Tumors. W. B. Meyer.—p. 1038.
*A New Preformed Antiglycosuric Substance. C. von Noorden.—p. 1041.
*Inconstancy of Morphologic Blood Picture. A. Kobryner.—p. 1043.
Corrective Plastic Surgery of the Nose. B. Griessmann.—p. 1045.
Water Solubility of Ovarian Hormone. B. Zondek.—p. 1046.
Action of Serum on Isolated Blood Vessels. E. Friedberger.—p. 1047.
Action of Carbon Dioxide Baths. A. Schott.—p. 1047.
Meningococcus Sepsis. J. Spirt and M. Braun.—p. 1048.
Treatment of Ileus. E. Gohrbandt.—p. 1050.
Measures Against Misuse of Narcotics. E. Jöel and F. Fränkel.—p. 1053.

Titration of Gastric Contents.—Heilmeyer and Graubner conclude that the best method for clinical examination of gastric contents is the titration with dimethyl-amino-azobenzene and phenolphthalein, provided that a buffer-free test meal (the "alcohol meal") is used. In such a case the values for both end points are at the utmost fifteen acidity degrees apart. If the difference is greater, we may conclude that the stomach contains an abnormal amount of buffers. This is due to duodenal reflux, mucus, blood or cancer products. The method is of especial value for differentiating gastritis and cancer from simple achylia.

Anaphylaxis and Roentgen Rays.—Guinea-pigs were injected by Schneider with 0.1 cc. of horse serum and irradiated within forty-eight hours with roentgen rays. The anaphylactic shock produced by reinjection of the serum was prevented if the roentgen-ray dose was sufficiently large to cause the death of the animals in from twenty to thirty days. Smaller doses of rays and irradiation applied later than forty-eight hours after the injection only mitigated the shock.

A New Preformed Substance Which Combats Glycosuria.—A new preparation obtained by the action of enzymes on the pancreas is reported by von Noorden. It is administered by mouth. It seems that it may be substituted for about 20 units of insulin, especially in those patients who could get along without insulin.

Inconstancy of the Morphologic Blood Picture.—Kobryner found that the number of leukocytes varies considerably both in health and in disease. A decrease of 50 per cent occurs sometimes in one day. He attempted to treat leukemia with various vaccines. The results were negative, especially if we take into consideration that the number of leukocytes changes spontaneously.

Mitteil. a. d. Grenzgeb. der Med. und Chir., Jena

40: 131-276, 1927

Associated Ulcer and Diverticulum of the Duodenum. P. Rosenthal.—p. 131.
Endemic Goiter and Tuberculosis. O. Susani.—p. 146.
*Thyroid Secretion in Goiter. O. Susani.—p. 154.
Internal Drainage of a Pancreatic Cyst. P. Walzel.—p. 171.
*Changes in the Liver After Splenectomy. H. Dieterich.—p. 183.
Emptying of the Gallbladder Filled with Tetraiodphenolphthalein. A. Adler.—p. 196.
*Venous and Arterial Air Embolism. K. Hutter.—p. 205.
Diagnosis of Syphilis of the Stomach. E. Gabert.—p. 224.
Surgical Treatment of Adhesive Pericarditis. Guleke.—p. 252.

The Storage of Secretion by the Thyroid, Its Relation to Goiter and the Action of Iodine.—Susani finds that the secretion of the thyroid is increased by stimulation of the sympathetic (perhaps also by iodine) and is decreased by section of the sympathetic and by iodine. The outflow is checked by stimulation of the parasympathetic and by iodine, and increased by section of the parasympathetic and by iodine. Iodine exerts a general tranquillizing influence on the nervous system, acting in an inhibiting sense on whichever portion of the sympathetic-parasympathetic is in the more excited and labile condition. He distinguishes three forms of exophthalmic goiter: A, the constitutionally neurotic thyrogenous form (including general endocrine disturbances); B, the thyrogenous neurotic form from loss of colloid substance; C, the thyrogenous neurotic form with increase in both the formation and the outflow of the secretion. Group B may pass over into group C after it has persisted for a certain length of time. For cases classed under group A, general treatment, as recommended by F. Glaser, is most suitable; little is to be expected from surgery. In group B success is proportional to the amount of thyroid tissue removed; iodine should not be given. Good results are achieved with iodine and with ergotamine in group C; section of the sympathetic has also been successfully tried in this group.

Changes in the Liver After Extirpation of the Spleen.—Dieterich experimented on white rats. In one series he removed the spleen; in another he injected trypan blue subcutaneously; in the third he removed the spleen and later injected trypan blue. The animals were observed over long periods (up to nine months after the splenectomy) and liver tissue was excised at intervals for examination. In the experiments of the first series, the earliest hepatic changes were found twenty-six days after the splenectomy. They consisted of dilatation of the intra-acinous capillaries and in enlargement and increase in number of Kupffer's cells. Extensive proliferation of these cells was not, however, seen, nor were any important transformations in the liver observed then or later. The collections of cells noted by M. B. Schmidt in the mouse were not seen. Injections of trypan blue, on the other hand, called forth the changes that regularly follow splenectomy in the mouse. The reaction induced in the vicinity of the blood vessels can be compared to inflammatory changes. In the experiments with splenectomy and trypan blue, it was clear that splenectomy alone was unable to bring about the changes that followed the later treatment with the dye. The experiments did not give a clear answer to the question whether or not the injection of trypan blue increased or hastened the changes caused in the liver by the loss of the spleen.

Air Emboli in the Veins and Arteries.—Hutter discusses the prognosis, prevention and treatment of air embolism. The prognosis of venous embolism is not necessarily bad, if the embolism is confined to the right side of the heart and to the pulmonary vessels, especially if the amount of air is small. In arterial embolism, on the other hand, the smallest quantity of air is sufficient to cause death. Venous embolism may be transformed into arterial embolism, through the presence of an open foramen ovale. Operations in which there is a possibility of opening veins the walls of which have slight contractility are especially dangerous from the point of view of air embolism. Such are osteotomies on extremities, trephinings of the skull, goiter excisions and removal of the axillary glands in breast cancer. Among preventive measures, Hutter mentions a bloodless field for operations on bones of the extremities, covering the surface of the wound with wet cloths, or directing a stream of sodium chloride solution over it, or, where there is danger of air entering veins in the floor of a cavity, allowing the cavity to fill with blood. Where the risk is in the direction of arterial embolism, morphine used before operations under local anesthesia and after operations diminishes the danger from coughing and from pain reactions. Quiet, shallow breathing lessens the danger of puncturing the lung in interventions on the thorax. Positive pressure should be instantly available. In exploratory puncture, the needle should be withdrawn, under compression of the puncture wound, before the syringe is detached. The changing of dressings is an occasion of particular danger, and rigid drains must be avoided. Various proposals for overcoming an established embolism are discussed; there is little unanimity as to their value. The roentgen ray may be useful in deciding the question of operating on the heart.

Münchener medizinische Wochenschrift, Munich

74: 795-834 (May 13) 1927

*Epidemiology of Venereal Diseases. A. Buschke et al.—p. 795.
*Synthesis of Remedies. H. Hörlein.—p. 801.
*Buffered Stains for Anemic Blood. J. Kleeberg and N. Leitner.—p. 805.
Hydrochloric Acid and Ether in Diagnosis of Peptic Ulcer. J. Olivet.—p. 807.
Color Index. H. Neumann.—p. 809.
Treatment of Scoliosis. Gaugele.—p. 810.
Unfounded Anxiety About War Malaria. Poleck.—p. 812.
Seven Laparotomies for Foreign Bodies. M. Liebers.—p. 815.
Two Unusual Obstetric Cases. Niedermaier.—p. 816.
New Speculum. Binz.—p. 817.
History of High Frequency Currents. P. Lenard.—p. 817.
Furunculosis of the Ear. F. Noltenius.—p. 817.

Epidemiology of Venereal Diseases.—Statistics collected by Buschke, Gumpert and Langer show that changes in the frequency of venereal diseases have been observed before now. Chancroid has a peculiar curve. They are inclined to attribute the decrease in syphilis observed in the last few years to unknown factors rather than to the use of arsphenamine. They mention a few reports that syphilis is increasing again in some countries, but do not attempt to correlate this with any legislative or other circumstances—especially not with the tendency to abolish control of prostitution.

Synthesis of Medicines.—Hörlein reviews the history of synthesis of drugs. Just as the first synthetic aniline dye (mauvein) was obtained by Perkin as the result of a failure to synthesize quinine, so the first simple synthetic antifebrile remedy (acetanilide) owed the discovery of its antifebrile action to a mistake on the part of a pharmacist, who dispensed it instead of naphthalin. The latter had been ordered by Cahn and Hepp in experiments on the treatment of intestinal parasites.

Buffered Stains for Anemic Blood.—Kleeberg and Leitner found that the best pictures of polychromophilia and basophilic stippling of erythrocytes were obtained when the staining solution (Giemsa or methylene blue) is buffered to maintain p_H 6.1.

74: 835-876 (May 20) 1927

*Studies in Predisposition. K. Kisskalt.—p. 835.
Symptoms of Cerebral Racemose Arterial Angioma. K. Eimer and K. Mehlhose.—p. 836.
Infectious Diseases and Syphilis. H. Ruge.—p. 838.
Abdominal Resection of Pelvic Colon. G. Seefisch.—p. 841.
Brain Injury. H. Kerschensteiner.—p. 844.
Treatment of Scoliosis. Gaugele.—p. 845.
A Corset for Scoliosis. Schlee.—p. 846.
*Ocular Symptom in Tabes. H. Haenel.—p. 847.
*Bromine in Hay-Fever. F. Hamburger.—p. 852.
Attempted Suicide with Phenobarbital. M. J. Gutmann.—p. 851.
Abscess or Hydatid Cyst of the Lung. Steinthal.—p. 854.
Juvenile Cirrhosis of the Liver. D. Kirschenblatt.—p. 856.
*Technic of Venesection. K. Barth.—p. 857.
Diagnosis of Leptospiroses. W. Schüffner.—p. 857.
Transformer for Galvanization. J. Kowarschik.—p. 857.
*Therapeutic Experiences. H. Schottmuller.—p. 860.
Occupational Diseases. Koelsch.—p. 864.

Studies in Predisposition as Function of Injuring Dose.—Kisskalt fed definite amounts of Gaertner bacilli to mice. With increasing doses, the mortality increased, at first slowly, then rapidly, then again slowly. The predisposition of the animals could be changed by various agents and estimated by the results. In this case, also, the mortality was not in direct proportion to the dose; the relation was probably exponential, similar to that between the infecting dose and the mortality.

Ocular Symptom in Tabes.—In 1909 Haenel published his observations on the absence of pain from pressure on the eyeball. The sign was noted in 50 per cent of patients with tabes. Unilateral increased tenderness of the eyeball in persons complaining of headaches suggests a disease of the accessory nasal sinuses.

Bromine in Hay-Fever.—In some cases of hay-fever Hamburger noted favorable effects from 1 Gm. doses of sodium bromide twice daily. It should be taken half an hour before leaving the house.

Technic of Venesection.—In patients whose arm veins are not visible, Barth performs venesection on the legs.

Therapeutic Experiences.—Schottmüller confirms the good effect of amidopyrine in hiccup. He starts with 0.3 or 0.5 Gm. and gives as many as five doses a day, if the hiccup returns. Doses up to 3 Gm. a day were beneficial in acute and chronic arthritis.

Wiener Archiv für innere Medizin, Vienna

14: 193-352 (May 20) 1927

Pathologic Anisocytosis. J. von Boros.—p. 193.
Macrocytosis. J. von Boros.—p. 219.
Serum Calcium in Asthma. W. Brednow.—p. 257.
Bronchial Respiratory Murmurs in Bronchoscopy. A. Winkler.—p. 273.
*Roentgen-Ray Diagnosis of Subphrenic Processes. E. Zdansky.—p. 295.
Agranulocytic Angina, Acute Leukemia and Sepsis. J. Weiss.—p. 303.
Sighing Respiration in Cardiac Dyspnea. H. Mond and S. Wassermann. —p. 335.
*Experimental Albuminocholia. W. Goldschmidt and R. Strisower. —p. 345.

Roentgen-Ray Diagnosis of Subphrenic Processes.—Disturbances of the diaphragm were observed by Zdansky as an early phenomenon in various subphrenic processes. The high position and paradoxic movement of the insufficient muscle should draw attention to its immediate neighborhood.

Experimental Albuminocholia.—Goldschmidt and Strisower affixed the gallbladder of dogs to the parietal peritoneum. This enabled them to puncture the gallbladder repeatedly without any apparent injury to the animal. They found an increased amount of proteins in the bile in various hepatic disturbances: toluylendiamine, phenylhydrazine, and parenteral injections of proteins gave positive results. Clinically, albuminocholia had been found in jaundice, cirrhosis of the liver and pernicious anemia.

Wiener klinische Wochenschrift, Vienna

40: 641-668 (May 19) 1927

Roentgen-Ray Treatment of the Nervous System. R. Lenk.—p. 641.
Roentgen-Ray Diagnosis of Lesions of the Appendix. A. Czepa.—p. 645.
Histogenesis of Bronchial Cancer. F. Feyrter.—p. 648.
Viper's Bite. O. Hoche and P. Moritsch.—p. 651.
*Blood Groups and Therapeutic Malaria. A. Pilcz.—p. 653.
Treatment of Rheumatism. R. Latzel.—p. 654.
Propedeutic Lectures and Internal Medicine. H. Elias.—p. 656.
Autohemotherapy in Sepsis. W. Linhart.—p. 657.
Circumscribed Hyperkeratoses. O. Kren.—p. 658.
Vertigo. S. Erben. Supplement.—pp. 1-14.

Blood Groups and Therapeutic Malaria.—In his material of sixty-three cases Pilcz did not find any apparent connection between the compatibility of blood groups and the success of malaria transmission.

40: 669-700 (May 26) 1927

Etiologic Treatment of Neuroses. H. Kogerer.—p. 669.
*Disturbances of Respiration in Parkinsonism. L. Hess.—p. 670.
*New Form of Epidemic Encephalitis. M. Pappenheim.—p. 674.
Intestinal Myoma with Perforation. G. Botstiber.—p. 674.
*Insulin as Antiemetic. H. Elias and E. Violin.—p. 678.
Rectoscopy. W. Zweig.—p. 678.
Conservative Treatment of Chronic Suppurations of the Middle Ear and Maxillary Sinus. G. Pichler.—p. 681.
Roentgen-Ray Examination of the Appendix. A. Czepa.—p. 682.
Coughing in Nontuberculous Children. R. Lederer.—p. 684.
The Duodenal Tube and the Practitioner. S. Bondi.—p. 685.
Treatment of Sciatica. B. Dattner.—p. 687.
Albuminuria and Life Expectation. E. Czyhlarz. Supplement.—pp. 1-16.

Disturbances of Respiration in Parkinsonism.—Hess discusses the pathogenesis of the attacks of hyperpnea that occur in chronic encephalitis, sometimes even in the acute stage. Experiments and histologic examination convinced him that the disturbance is due to a pathologic process in the region of the locus caeruleus.

New Form of Epidemic Encephalitis.—Cases of vertigo lasting for several days or weeks were observed by Pappenheim. Some anomalies of the tonus of the musculature were found. He believes that the syndrome is due to encephalitis.

Insulin as Antiemetic.—Elias and Violin used insulin in vomiting from various causes. The treatment was successful in most cases. Only patients with tumors of the brain, intestinal stenosis and hysteria were not influenced.

Zeitschrift f. d. ges. expermentelle Medizin, Berlin

54: 593-829 (March 31) 1927

Blood Nitrogen in Infections in Infancy. O. Beck.—p. 593.
Biochemistry of "Bayer 205." W. A. Collier.—p. 606.
Universal Respiration Apparatus. E. Grafe et al.—p. 613.
*The Spleen, the Liver and Fragility of Erythrocytes. G. Frenckell. —p. 631.
*Pharmacology of Curry. A. Guttenberg.—p. 642.
*Venesection and Resistance of Hemoglobin. F. von Krüger and W. Gerlach.—p. 653.
Antipyretic and Carbon-Nitrogen Ratio of the Urine. T. Taslakowa. —p. 669.
Interfereometric Diagnosis. A. Streck.—p. 677.
Regulation of the Movements of the Stomach by Body Fluids. A. von Jeney.—p. 695.
Reactions of the Pituitary. F. Poos.—p. 709.
Portal Stasis. S. Norlén.—p. 785.
True Cholemia in Cholascos. F. Rosenthal et al.—p. 795.
Action of Phlorhizin. S. Hetényi and J. Patai.—p. 816.
Fraction Determination of Blood Clotting. W. W. Prāwdicz-Neminski. —p. 820.
"Subcutaneous Epinephrine Reaction." E. Kylin.—p. 826.

The Spleen, the Liver and Fragility of Erythrocytes.—Frenckell found that chloroform and ether anesthesia increase the fragility of erythrocytes in cats. The resistance of erythrocytes in blood from the splenic vein was about the same as in other venous blood. It was less than in arterial blood.

Pharmacology of Curry.—Guttenberg made chemical and pharmacologic studies on the root of curcuma longa. It contains a terpene which has a cholagogic action, passes, in part, into the bile and dissolves cholesterol in vitro.

Venesections and Resistance of Hemoglobin.—Krüger and Gerlach observed a temporarily increased resistance of hemoglobin to alkali after large venesections. Resorption of artificial hematomas was without influence, unless the blood was taken from the same animal.

Zeitschrift für Immunitätsforschung und exper. Therapie, Jena

51: 1-192 (May 18) 1927

Tetanospasmin and Tetanolysin. G. C. Reymann.—p. 1.
The Reticulo-Endothelial Apparatus and Recurrens. I. L. Kritschewski and P. L. Rubinstein.—p. 27.
Idem. A. W. Lisgunova and A. P. Butjagina.—p. 56.
Gold Sol Reaction. H. Förtig.—p. 65.

Lipoid Antibodies in Rabbits in Immune Phase of Syphilis. J. Steinfeld.—p. 73.
*Anaphylactic Shock in Rats. M. K. Ebert.—p. 79.
*Antigenic Character of Some Constituents of Acid-Fast Bacilli. A. Korff-Petersen and W. Liese.—p. 87.
Thyroidectomy and Anaphylactic Shock. M. S. Fleisher and C. M. Wilhelmj.—p. 115.
Thyroidectomy and Surface Tension of Plasma in Shock. M. S. Fleisher and C. M. Wilhelmj.—p. 126.
Antibodies in the Frog's Blood. L. Schwarzmann.—p. 139.
Heterogenetic Antigens. E. Witebsky.—p. 161.
Importance of Bacteriophage for Diagnosis. A. Grumbach and A. Dimtza.—p. 176.

Anaphylactic Shock in Rats.—Ebert was unable to produce anaphylactic shock in rats injected with horse serum or sheep erythrocytes.

Antigenic Character of Some Constituents of Acid-Fast Bacilli.—Korff-Petersen and Liese extracted acid-fast bacilli with solvents of fats, which did not affect the acid-fastness of the bacilli or render them less gram-fast. The extracts could be used for complement fixation tests, but were not quite specific for the antibodies contained in the serum of tuberculous patients. Specific antigens were obtained by extracting with hot alcohol tubercle bacilli that had been treated with acids until they did not stain with Ziehl's nor with Gram's solutions.

Zeitschrift für Krebsforschung, Berlin

25: 1-104 (May 18) 1927

Tumors in Tarred Animals. C. Bonne.—p. 1.
*Alleged Protozoons in Cancer. O. Machiarulo.—p. 23.
Microscopic Cancer Metastases in the Spleen. T. Yokohata.—p. 32.
*Immunization Against Tumors. F. Reichert.—p. 62.
Immunization Against Cancer. E. Knopf.—p. 64.
Influence of Water on Cancer. F. Goldstein.—p. 71.
Histology of Experimental Tumors in Rats. H. Auler.—p. 78.
Cultivation of Pure Cancer Cell Strains in Vitro. A. Fischer.—p. 89.
*The Plastin of Tumefaciens Bacilli. H. Bechhold and L. Smith.—p. 97.

Alleged Protozoons in Cancer.—The peculiar "blue-white" cells, regarded by J. Koch as protozoons, are shown by Machiarulo to be only degenerated cells. They occur not only in tumors, but in all other necrotic tissue.

Immunization Against Tumors.—Reichert injected rats with 0.5 cc. of a suspension of equal parts of the fresh spleen, liver and muscles of guinea-pigs in ten parts of physiologic solution of sodium chloride. From six to seven injections were given subcutaneously at intervals of one week. Inoculation with a virulent tumor suspension, made about four to six weeks after the last injection, resulted in tumor in only about 5 to 7 per cent of the experiments, as against 74 to 84 per cent in the controls.

The Plastin of Tumefaciens Bacilli.—The term "tumefaciens-plastin" is suggested by Bechhold and Smith for the substance that causes atypical growths in plants. It is not a living virus. It passes ultrafilters which retain particles of a diameter of 20 millimicrons. Consequently the agent is at the utmost a colloid in fine dispersion. It resists boiling for twenty minutes and the action of a 1 per cent solution of phenol for one hour. It is not lactic acid, an inorganic salt, or a fatty acid.

Zentralblatt für Chirurgie, Leipzig

54: 769-832 (March 26) 1927

*Wohlgemuth's Test in Acute Diseases of the Pancreas. E. Unger and H. Heuss.—p. 770.
Tenodesis in the Transosseous Fixation of the Peroneus Tendon. M. Hackenbroch.—p. 772.
Destruction of Hollow Organs Lined with Mucous Membrane. F. J. Kaiser.—p. 774.
Telescopic Anastomosis. R. Goepel.—p. 777.
*New Applications of Lorenz' Bifurcation. J. Hass.—p. 783.
Encysted Inguinal Hernia. J. Knopp.—p. 786.
Dislocation of Both Phalanges of the Thumb. A. H. Hofmann.—p. 788.
Treatment of Anal Fissure. J. Philipowicz.—p. 788.
Treatment of Fracture of the Neck of the Femur Below the Head. C. E. Jancke.—p. 790.
Rapid Method of Preparing Protective Dressings with Cellon. H. Magnus.—p. 794.

Urinary Diastase in Acute Pancreatic Diseases.—Unger and Heuss report on eighteen additional cases of acute disease of the pancreas, in which Wohlgemuth's test for increase of diastase in the urine was applied. This brings the number of cases they have reported up to thirty-one, and in all but two (a case of abscess of the pancreas and a case of pancreatic necrosis with associated nephritis) there was a pathologic increase of the diastase values in the urine. The test was carried out in more than 100 cases in which the abdominal symptoms were not clear, and proved negative when the pancreas was not involved.

New Application of Lorenz's Bifurcation.—Hass has adapted Lorenz's bifurcation successfully to cases of coxa vara luxans (fissure of the neck of the femur developing from coxa vara and resulting in a sort of dislocation without luxation of the head) and to old tuberculous coxitis with pathologic luxation. He believes it might also be applied with benefit to many cases of true progressive arthritis deformans. The modifications are shown on diagrams.

Zentralblatt für Gynäkologie, Leipzig

51: 705-768 (March 19) 1927

Serologic "Alcohol Reaction" in Early Pregnancy. H. Munter and E. Gräfenberg.—p. 705.
Diabetes and Pregnancy. L. Kraul.—p. 709.
*Insulin and the Ovary. E. Vogt.—p. 719.
Menstruation and Pregnancy in Typhoid Fever. E. Kohn.—p. 736.
Pulmonary Tuberculosis and Pregnancy. E. Gross.—p. 744.
Etiology of Tubal Pregnancy. W. Lahm.—p. 752.
Rupture of the Uterus. H. Kupferberg.—p. 757.
*A Hitherto Unknown Action of Ergot. N. Louros and H. E. Scheyer.—p. 763.

Insulin and the Ovary.—Vogt reports good results in the treatment of menorrhagia by insulin. From 40 to 50 units a day were given. He warns that the midday and evening meals, before which the injections are made, must contain at least 30 Gm. of carbohydrates each, and that measures to combat hypoglycemia must be ready to hand. The treatment was usually started in the second half of the menstrual period and was continued for three or four days, or until the bleeding showed signs of stopping. He discusses the action of insulin on the endocrine system.

A Hitherto Unknown Action of Ergot.—Ergot was found by Louros and Scheyer to exert a favorable influence on experimental streptococcus infection in white mice.

51: 769-832 (March 26) 1927

*Sources of Error in Interfereometric Sero-Diagnosis. E. Küster and K. Koulen.—p. 770.
Tubal Implantation and Pregnancy. R. Michaelis.—p. 779.
*Eclampsia in Mother and Child. E. Schwarzkopf.—p. 783.
Hemostasis After Labor. F. Kermauner.—p. 787.
*Bleeding to Death After Abortion. M. Oing.—p. 789.
Development of Social Gynecology. A. Niedermeyer.—p. 791.
Simultaneous Extra-Uterine and Intra-Uterine Pregnancy. R. S. Hoffmann.—p. 799.
Cholesteremia in Pregnant Women. K. Hellmuth.—p. 802.
Roentgen-Ray Abortion. J. Molnár.—p. 804.
Formation of a Vagina from Meckel's Diverticulum. B. N. Wassiliew.—p. 806.

Sources of Error in the Use of the Interfereometer for Testing Abderhalden's Reaction.—Küster and Koulen found that the swelling of the dry organ powder in the serum under examination was able to simulate decomposition in the interfereometric measurement. They describe a method of obviating this source of error, based on preliminary swelling of the powder.

Eclampsia in Mother and Child.—Schwarzkopf records typical eclamptic attacks in the new-born child of an eclamptic mother. The child was well developed, the birth was spontaneous and the maternal pelvis was not contracted. There were no grounds for suspecting brain hemorrhage. The mother was a primipara, aged 36; she had had a number of eclamptic attacks before entering the clinic and had six while there. The attacks in the child began thirteen hours after birth. On the first day of life there were four attacks, on the second day six. Thereafter, under administration of 0.2 Gm. of calcium chlorate six times daily, they diminished in frequency, and ceased entirely after the fourth day. Four weeks after discharge, mother and child were well. It is supposed that the toxin circulating in the mother's blood passed the barrier of the placenta and entered the child's circulation.

Bleeding to Death After Abortion.—A case of fatal hemorrhage following spontaneous abortion in the third month is reported by Oing. The patient was a tripara, aged 38, a healthy and strong peasant woman. A lesion of the cardiovascular system was not present, nor were there any injuries in the genital tract.

Russkaya Klinika, Moscow

7: 315-468 (March) 1927. Partial Index

Morbidity Rate of Primary Cancer of the Lung. P. Perfilieff.—p. 315.
*Mechanism of Hyperglycemia. S. A. Pospeloff and G. A. Raevskaya.—p. 326.
Rôle of Ascarides in Hemorrhagic Necrosis of the Pancreas. A. A. Bayder.—p. 391.

Study of the Mechanism of Hyperglycemia.—Pospeloff and Raevskaya's researches were conducted on rabbits and on man. In the animals, introduction of a stomach tube or of water did not cause any changes in the blood sugar. It was increased by inhalation of ammonia or hydrochloric acid vapors and by chloroform or ether anesthesia. Administration of water, oil, magnesium sulphate or barium sulphate did not modify the blood sugar in three diabetic patients or in five nondiabetic persons. Patients with various diseases were given levulose simultaneously with sodium bicarbonate or with hydrochloric acid. Alkali appeared to inhibit alimentary hyperglycemia, except in patients with lesions of the liver. Acid enhanced the hyperglycemia. In patients with fever, the assimilation of carbohydrates was reduced. Psychical irritation of the digestive tract, such as the chewing of food, was without effect on the blood sugar. Changes in the blood sugar appear to be connected with those in the electrolytes and in the reaction of the blood.

Acta Ophthalmologica, Copenhagen

4: 193-288

Angiomatosis Retinae and Brain Complications. A. Lindau.—p. 193.
Formation of Precipitates in Profound Keratitis. H. Ehlers.—p. 227. In English.
Reactions of Normal Eyes in Patients Treated with Sanocrysin. C. Edmund.—p. 237. In English.
Luxation of Secondary Cataract into the Anterior Chamber. M. Vannas.—p. 262. In English.
Case of Syphilitic Hypopyon Keratitis. E. Enroth.—p. 271.
Severe Burns of Both Eyes from Ammonia. H. Teräskeli.—p. 274.
"On Periodic Episcleritis and Heredity." O. Heinonen.—p. 278.
Case of "Letter" Keratitis. O. Blegvad.—p. 281.
Case of Necrotizing Iritis. C. Lottrup-Andersen.—p. 284.

Hospitalstidende, Copenhagen

70: 359-382 (April 21) 1927

*A New Method of Culturing Epithelium. O. Kapel.—p. 378.

A New Method of Culturing Epithelium.—Kapel used small pieces of cerebrum or cerebellum of chicken embryos, from 10 to 13 days old. Chicken plasma and embryonal extract were employed as culture medium. After forty-eight hours there was liquefaction of a great part of the coagulated culture medium adjacent to the tissue transplant. This was followed by an outgrowth of round or irregular ameboid-like processes. At this stage the cultures were transferred to fresh media, and after another period the same phenomenon recurred. When the cultures were transferred a second time, wide membranes grew out from the cultures. The tissue was then placed on the surface of the partly coagulated plasma and covered with a drop of embryonal extract. Treated in this manner, it grew readily and only the characteristic membranes remained. From three to four days should elapse between each transfer. The original tissue lost its specific character entirely, but in the cultures there were cells in the stages of mitosis and of amitosis. Without doubt one cell of this culture can be grown indefinitely, in the same manner as fibroblasts, sarcoma cells and epithelium, as formerly cultured.

Norsk Magazin for Lægevidenskapen, Oslo

88: 425-560 (June) 1927

*Changes in Skin and Organs in White Mice After Painting with Tar. G. Guldberg.—p. 425.
Cause and Development of Concomitant Strabismus. H. Schiøtz.—p. 452.
*Tuberculosis Resistance. J. Heimbeck.—p. 457.
Perforating Ulcer of the Stomach. N. Paus.—p. 488.
Modern Surgery of the Sympathetic. J. Holst.—p. 491.
Reaction of the Organism During Resorption of Its Own Modified Tissue. S. Widerøe.—p. 500.

Changes in Skin and Organs in White Mice After Painting with Tar.—The epithelial tumors that Guldberg produced in white mice by painting with tar presented a continuous series of development from papillomas with incipient infiltrating growth to fully developed carcinomas. The type of tumor appeared to depend on the duration of the painting and on the length of time that the animals survived. These growths infiltrate the skin and subcutaneous tissues and involve the blood vessels and nerves. In twenty-five mice there developed altogether one papilloma, three incipient carcinomas and seventeen fully developed carcinomas, six of which metastasized in the lymphatic glands and lungs. The fully developed carcinomas were highly heterogenic, four of them Guldberg designates as irregular carcinomas, since they were constructed of spindle-shaped cells which he regards as epithelial cells. The remaining fully developed carcinomas were all pure squamous epithelial carcinomas consisting partly of highly differentiated epithelium with abundant development of cancroid pearls, partly of slightly differentiated or entirely undifferentiated cells. In most of the pure squamous epithelial carcinomas of this series, however, there was a mixture of both differentiated and undifferentiated cell forms in varying proportions. In addition to a local effect, the painting with tar produced a general toxic effect with changes in the internal organs. In the spleen both myelogenous changes and amyloid degeneration were present. The myelogenous changes began to develop in the course of the first three or four weeks and were present in a marked degree after 74 days' painting with tar. Amyloid degeneration was not seen with certainty until after 250 days. In the liver there was considerable epithelial degeneration with abundant intracellular deposit of blood pigment as well as numerous lymph and leukocyte infiltrations. In all animals that lived more than 100 days, chronic interstitial nephritis was found. In most of the animals there was bronchitis, sometimes bronchopneumonia. In all the organs examined, particles of tar were found deposited in intercanalicular and intracellular spaces.

Tuberculosis Resistance.—Heimbeck carried out a series of investigations on the prevalance of tuberculosis among nurses in training. He found that about one half of nurses aged from 20 to 25 years react positively to the Pirquet test when they enter training. These, he states, seldom contract tuberculosis, while many of those giving a negative reaction contract tuberculous diseases, so that nearly all gradually become Pirquet-positive. He also found that small doses of B C G bacilli injected subcutaneously in a person giving a negative Pirquet reaction will develop a positive reaction without causing any special discomfort. This reaction has remained positive for as long as nine months. Time will show whether this is a tuberculin hypersensibility or a natural reaction providing increased resistance or immunity to tuberculosis.

Ugeskrift for Læger, Copenhagen

89: 483-502 (June 9) 1927

A Case of Suicide by a Variety of Means. J. Fog.—p. 483.
*Nystagmus in Monocular Vision. E. Holm.—p. 485.
*Fistula Treated with Syrupus Sacchari. E. Boas.—p. 48[illegible]
Cooperation Between Physicians and Teachers in Physical Training. K. Secher.—p. 494.

Nystagmus in Monocular Vision.—Holm states that in congenital or early acquired monocular vision jerking nystagmus is a frequent phenomenon; in some cases it appears only in lateral movements of the eye or in looking straight ahead. In patients with amblyopia of the squinting eye such nystagmus has not been observed, but in alternating strabismus nystagmus is not infrequent. In nystagmus with perfect vision of both eyes it must be determined whether or not they move simultaneously.

Fistula Treated with Syrupus Sacchari.—Boas treated a series of fistulas successfully with syrupus sacchari. The treatment is as follows: The ulcer is cleaned with dry gauze and the fistula filled completely with syrupus sacchari, either through a cannula or an old ureteral catheter, then dressed with sterilized cotton. The treatment is repeated every two days till healing, which requires about eight d[illegible]o three months. In all twelve fistulas were treated, eigh[illegible]ous, two congenital fistulas of the neck, one osteomy[illegible] ureteral. Five of the eight tuberculous fistulas remained unchanged. One of the neck fistulas wa[illegible] in the other healing occurred after six injections. [illegible] myelitic fistula improved quickly and the ure[illegible] healed after five weeks. Ultraviolet rays were